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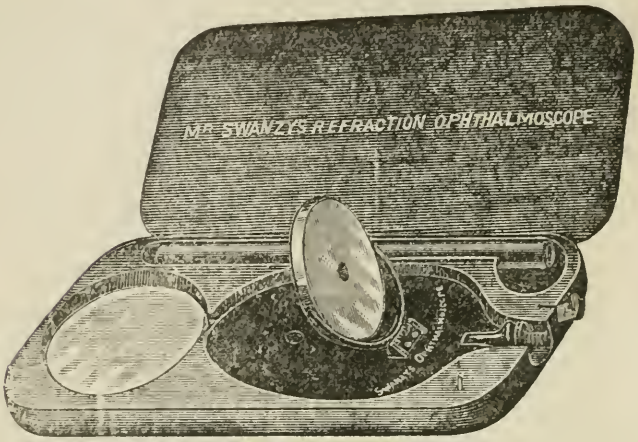

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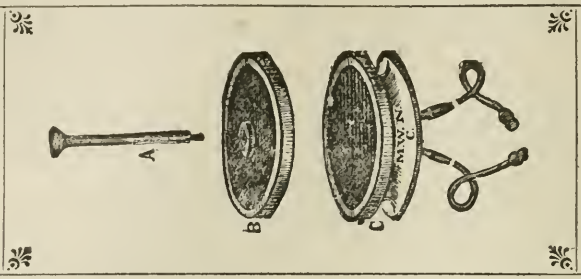

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2. La Revue Médicale. Cinquième Année. No. 116, 117, 118, 119. 23, 30 Septembre; 7, 14 Octobre, 1896. Paris.

3. The Philadelphia Polyclinic. Vol. V. No. 37, 38, 39, 40, 41. September 12, 19, 26; October 3, 10, 1896.

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12. The Guide to South Africa. Edited annually by A. Samler Brown and G. Gordon Brown. 1896–97 Edition. London: Sampson Low, Marston & Co. 1896. 8vo. Pp. 420.

13. A Manual for Hospital Nurses. By Edward J. Domville. Eighth Edition. London: J. & A. Churchill. 1896. 8vo. Pp. 119.

14. Hints on Elementary Physiology. By Florence A. Haig-Brown. London: J. & A. Churchill. 1896. 8vo. Pp. 121.

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22. The Laryngoscope. Vol. I. No. 3. September, 1896. St. Louis, Mo.

23. A Clinical Manual of Diseases of the Eye. By D. B. St. John Roosa, M.D., LL.D. New York: William Wood & Co. 1894. 8vo. Pp. 621.

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27. Pediatrics. Vol. II. No. 7. October 1st, 1896. London: Harrison and Sons.

28. Report of a Case of Tumor of the Thalamus, with remarks on the Mental Symptoms. By Walter Channing, M.D., Brookline, Mass. 1896. Reprint. New York: Raff and Co.

29. A Text-book of Bacteriology. By Edgar M. Crookshank, M.B. Fourth Edition. London: H. K. Lewis. 1896. 8vo. Pp. 715.

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42. Revue des Sciences Médicales. No. 96. 15 Octobre, 1896. Paris: Masson et Cie.

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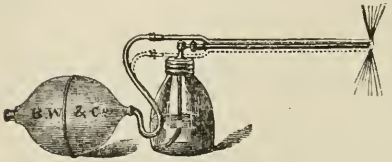

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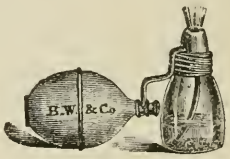

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THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

NOVEMBER 2, 1896.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVI.—*The Thyroid Treatment of Psoriasis.* By H. S. PURDON, M.D.; Consulting Physician, Belfast Hospital for Diseases of the Skin.

DURING the last few years a good deal of attention has been directed to the use of thyroid extract in the treatment of various diseases, especially so with regard to lupus and also psoriasis. It occurs to me that we know little regarding the "cause" of psoriasis, and, as a result of my own observations, I have come to the conclusion that this cutaneous eruption is intimately connected with a gouty, or what we call in Ireland a "rheumatic-gouty" state of the constitution. As is well known, psoriasis is very often hereditary, and "runs," so to speak, in rheumatic or gouty families. The sufferer from psoriasis is, as a general rule, in good health, and if it were not for his skin trouble, would be all right. It is a curious fact that about the joints, as elbows and knees, are the places first attacked, and often a good deal of urate of ammonia is present in the urine. Psoriasis attacks both sexes in about equal proportions, but is more frequently observed in dark-haired complexioned people, such as the old physicians called of a "bilious temperament." My experience of psoriasis in fair-haired, but especially in *red*-haired persons—in whom it is rare—is that the complaint is then excessively obstinate to treatment and most difficult to

remove. Another fact I have noticed is that in "full-blooded" people, who probably live well, and where the patches of psoriasis are red and congested, a little wine of antimony, given after food to prevent sickness, has a beneficial effect. In such cases, 60 years ago, the patient would have been bled. The antimony, when combined with saline aperients or diuretics, acts better. I have never seen any good derived from drinking "sulphur" waters, as those of Harrogate, Aix-la-Chapelle, or Ballynahinch, near Belfast. I have sent patients to all these places, and they usually returned in about the same condition as when they left. Indeed, sulphur or arsenic, in the "acute" or congested stage, "sends out" more of the eruption. However, I have noticed good results from dieting, and I am strongly convinced that the less "butcher's" meat the patient takes the better. I would go further, and state that a vegetarian diet, with avoidance of stimulants—milk and eggs to be allowed—will give good results. I am borne out in this view by my friend, Dr. Duncan Bulkley, of New York, who recommends the restricting the quantity of animal food in the treatment of psoriasis. For those of a thin or spare habit, plenty of butter and good "oily" cocoa, not Dutch cocoa, is to be recommended. Also exercise and to promote perspiration, I have seen rapid improvement in both sexes by the use of the bicycle, and often advise the purchasing of one, but the use of the Turkish bath in the declining stage—or used regularly to prevent a return of the eruption—is to be highly recommended.

With regard to the use of thyroid extract, I have given it a fair trial in six cases, and the results, briefly stated, are as follows:—One case, that of a gentleman, aged forty, a member of the legal profession, took the extract—5 grains—thrice daily for 4 days, when he complained of severe pain in the occipital region, and sleeplessness, with more or less "nervousness," when the extract had to be discontinued. *Two* other cases, both girls, aged about twenty years, took the extract for some weeks, made *much worse* as far as eruption was concerned. Two other cases, also girls, under twenty-two years of age, continued treatment for several weeks, *no improvement.* One case of a girl, aged nineteen

years, a very chronic case, pale complexion. This patient attended at the Skin Hospital for upwards of a year before beginning thyroid treatment. At end of three months her skin trouble was *completely removed*, and, as far as I know, no return as yet; this is upwards of two years ago.

It occurred to me that a "concensus" of *dermatological* opinion from some of the principal medical men engaged in cutaneous practice in the chief towns of England, Scotland, and Ireland, might be interesting, and I have to thank those gentlemen who so kindly answered my questions. It is evident that the beneficial effects of thyroid extract in such cutaneous diseases as psoriasis and lupus is probably due to the effects, often depressing, that the remedy has on the state of nutrition of the body generally.

I have asked only those gentlemen with whom I have had some acquaintance for their opinion; hence many eminent dermatologists are omitted.

I beg now to submit extracts from the replies received:—

P. Abraham, M.D., Physician for the Skin, West London Hospital, and to Blackfriars Hospital for Skin Diseases, Sept. 21, 1896:—"The conclusions I have formed have been abundantly confirmed by my subsequent experience. . . . On account of its uncertainty, its frequent disagreeable effects, and from the fact that I can successfully treat in a short time by other methods most cases of psoriasis that come before me, I have practically given up the exhibition of thyroid gland in psoriasis."

Morgan Dockrell, M.D., Physician, St. John's Hospital for the Skin, London, Sept. 22:—"I consider thyroid extract most useful in many cases of psoriasis. In some cases I have been able to obtain 'cures,' although slowly, without the aid of local applications. In the majority of cases I find it the best internal treatment I have ever used, and a great aid to local treatment. I give 5 grs. three times a day to adults and 1½ grains to children. In addition, I have several patients who have suffered from outbreaks of psoriasis in the spring and fall who, since using the thyroid extract, have been able, by taking 3 or 4 tabloids a week, to tide over these times without any recurrence."

E. Mackey, M.D., Physician, Sussex Hospital, and Alexandra Hospital for Children, Brighton, Sept. 23, 1896:—"In reply, I have not had much satisfaction with thyroid in outdoor work, and do not use it much, but in one case of a child—very obstinate—

that took it and kept in bed for some weeks, giving 6 tabloids daily, did very well."

W. G. Bower, M.D., Physician, Hospital for Skin Diseases, Sheffield, Sept. 23:—"Although I have found thyroid extract successful in a few cases, I do not consider it of marked improvement on the remedies hitherto used."

Allan Jameson, M.D., Physician, Department for the Skin, Royal Infirmary, Edinburgh, Sept. 22:—"I have tried thyroid in several cases of psoriasis; entirely negative results. Some were out-patients; one took several tabloids daily for six months. In the Infirmary I could not say that any case was benefited, and some suffered so much from palpitation that they refused to continue it."

Professor M'Call Anderson, M.D., Physician, Western Infirmary, and to Hospital for Skin Diseases, Glasgow, Sept. 23:—"In reply to your inquiry, I have to say that, undoubtedly, in some cases, the thyroid treatment of psoriasis is of great benefit, but it is very uncertain in its action. I find, too, that if it is necessary to 'push it, that it is difficult to do so when the patient is going about his ordinary avocations, as it not only leads to much loss of flesh, but also makes the patient depressed. It therefore requires to be used with caution."

Leslie Phillips, M.D., Physician, Birmingham Hospital for Skin Diseases, Sept. 25, 1896:—"Generally speaking, I have found thyroid exceedingly disappointing in psoriasis. Nothing is more frequent than to see a fresh eruption take place during the time patient is under the extract."

Stewart Stirling, M.D., Physician, Edinburgh Dispensary for Skin Diseases, Sept. 28, 1896:—"I have tried thyroid extract in a few cases of psoriasis, entirely without any beneficial results."

Alexander Morton, M.D., Physician to Skin Department, Glasgow Royal Infirmary, Sept. 29, 1896:—"Thyroid extract practically useless in psoriasis, unless given in such large doses as to cause considerable constitutional disturbance, and lay patients up. Even then the 'cure' is not complete, nor the improvement permanent."

G. G. Stopford Taylor, M.D., Physician, Hospital for the Skin, Liverpool, Sept. 21, 1896:—"The treatment of psoriasis by thyroid extract, in my hands, has proved so disappointing that I have practically given it up."

R. Leigh, M.D., Physician, St. George's Hospital for the Skin, Liverpool, Sept. 22, 1896:—"I have hardly used thyroid extract in psoriasis, and cannot say that I have found it useful or otherwise."

Henry Waldo, M.D., Physician for Skin Diseases, Bristol Royal Infirmary, Sept. 22, 1896:—"In answer to yours, I have to say that thyroid extract has been very beneficial in only a few of my cases of psoriasis."

Professor Walter G. Smith, Physician, Sir Patrick Dun's Hospital, Dublin, Sept. 21, 1896:—"I have given thyroid extract in a few cases of psoriasis, but did not observe any special benefit from its use, and in at least one case it produced alarming depression, with weakness. I think it a risky remedy for an affection like psoriasis, which is best treated—namely, by local remedies."

Wallace Beatty, M.D., Physician for Skin Diseases, Adelaide Hospital, Dublin, Sept. 21, 1896:—"I have used thyroid gland extract in but a few cases, and did not push it to a dangerous dose. I cannot say that I was inspired favourably with it. The cases I tried it in improved a little, but were not cured. Thyroid extract in psoriasis will not prevent relapses."

R. Glasgow Patteson, M.B., formerly Physician for the Skin, St. Vincent's Hospital, Dublin, Sept. 21:—"The results I have seen did not seem to me better than those obtainable by local methods."

E. B. Purdon, M.B., Physician, Belfast Hospital for Skin Diseases, Sept. 22:—"Have used thyroid extract in two cases—both girls. The psoriasis disappeared in about two months. Do not think it superior to other methods, and gives no guarantee against relapses."

Dr. Abraham, in a most valuable paper (*Transactions of Medical Society of London*), read Jan. 8, 1894, gives the results of his observation in cases of diseases of the skin treated by thyroid gland, as a result of this method, in 65 cases of psoriasis, 7 cases of eczema, and 4 of lupus. Dr. Byrom Bramwell, as is well known, introduced the remedy, and has published three severe cases of psoriasis, which benefited greatly under its administration. He also mentions in his paper (*British Medical Journal*, August and October 28, 1893) several slighter cases of psoriasis treated in the same way. He quotes a severe case of psoriasis under Dr. Stocker, of Dundee, in which the extract seemed to do little good. Dr. Leslie-Phillips, Physician to Birmingham Skin Hospital, in *Brit. Med. Jour.*, Nov. 25, 1893, gives notes of three cases treated with the extract, but not much improved. Mr. Balmanno Squire, M.B. (*British Med. Jour.*, June 6, 1894), says that he has tried this remedy in two

cases of psoriasis, with no beneficial result. Dr. Gordon Gill, in the *Lancet*, June 6, 1894, reports good results in three cases of psoriasis. The weight of medical opinion seems against thyroid extract, at least as a "specific," in the treatment of psoriasis, and, as Dr. Abraham correctly remarks: "The ingestion of thyroid gland, although of specific therapeutical value in myxœdema and sporadic cretinism, has no constant effect in psoriasis and in many other diseases of the skin."

Dr. Piffard, of New York, in his work on "Materia Medica and Therapeutics of Diseases of the Skin," remarks, page 246, that "Psoriasis pertains to the rheumic diathesis, and that the *fons et origo* and the predisposing causes of the affection must be there sought. The exciting causes are obscure. A great number have been mentioned, but hardly one of them will be found to hold good except in a limited number of cases."

The distinguished French physician, Bazin, of St. Louis' Hospital, Paris, professed to distinguish psoriasis, lichen, and prurigo into arthritic and herpetic varieties, but the line is not very well defined.

Dr. Alex Haig, Physician to the Metropolitan Hospital, London, a well-known authority on all matters relating to uric acid, has been kind enough to inform me, in a letter dated Sept. 25, that "with regard to psoriasis, where there is an association with gout or rheumatism, or any cause to expect the presence of uric acid in the blood, that the uric acid should be treated in the hopes of improving the nutrition of the skin and removing the eruption. . . . . In the 3rd edition of 'Uric Acid,' you will find, p. 354, that psoriasis may alternate with an attack of gout, just as various forms of erythema appear to do with rheumatism. I have had a considerable number of cases of skin diseases, called by others gouty eczema, psoriasis, &c., which have yielded in the most decisive manner to the diet treatment of uric acid, so that I quite agree with your practical experience, and believe that the more completely uric acid and xanthins are cut out of the diet the more rapid and complete will be the cure of the skin trouble."

ART. XVII.—*The Medicine and Surgery of the Homeric Poems.* By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

(*Continued from page 214.*)

LONGEVITY.

. . . . τοῖσι δὲ Νέστωρ
Ἡδυεπὴς ἀνόρουσε, λιγὺς Πυλίων ἀγορητὴς,
Τοῦ καὶ ἀπὸ γλώσσης μέλιτος γλυκίων ῥέεν αὐδή.
Τῷ δ' ἤδη δύο μὲν γενεαὶ μερόπων ἀνθρώπων
Ἐφθίαθ', οἵ οἱ πρόσθεν ἅμα τραφέν ἠδ' ἐγένοντο
Ἐν Πύλῳ ἡγαθέῃ, μετὰ δὲ τριτάτοισιν ἄνασσεν.
—*Iliad*, I. 247-252.

ONE of the most important and powerful of the mainsprings of human action, as of human thought—the restless desire to possess what is beyond our reach, the craving wish to attain the unattainable, the straining after an opportunity of trying to perform the impossible—is illustrated in the mythology of longevity, in the pursuit of the elixir of life, and in the hope of immortality after death; as it has been in the endeavour to discover the philosopher's stone, to devise some form of perpetual motion, to make aerial navigation as manageable as oceanic, to perform the geometrical miracle of squaring the circle, to overcome the climatic difficulties in the way of reaching the North Pole, or the various national and individual obstructions in the way of the adoption of a universal language by all the members of our race. Call it ambition, call it vanity, self-love, the desire to overcome, the longing to attain to the first place—some of it will be found in every human breast, and on intimate scrutiny will be found one of the most important incitements of human endeavour. The instinct of self-love will always induce man to take up the best position he can in endeavouring to defend himself against the demon of annihilation—physical or spiritual.

The possession of what all other persons wish for necessarily carries with it respect and influence; and, even on that account alone, the distinction of old age, if unaccompanied by physical or mental imbecility, has always been recognised

among the more intelligent of the primitive peoples. The friendly advice of sage experience will always be sought by selfish human beings from those persons who have been, or may be supposed to have been, placed under similar trying circumstances. Accordingly, Nestor's attainments and personality in every way qualified him to become the respected adviser of the Grecian heroes; and his placid suggestions for the restoration of harmony among the chiefs were sometimes as important as those for the arrangement of their battalions on the field of battle:—

> "To calm their Passion with the Words of Age,
> Slow from his seat arose the *Pylian* Sage;
> Th' experienc'd *Nestor*, in Persuasion skilled,
> Words, *sweet* as Honey, from his Lips distill'd
> Two Generations now had past away,
> Wise by his Rules and happy by his Sway;
> Two Ages o'er his native Realm he reign'd,
> And now th' Example of the third remain'd.
> [All view'd with Awe the Venerable Man;
> Who thus, with mild Benevolence, began;]"
>
> —*Pope.*

We are further told in the Odyssey that our sage had *ruled* over three generations, which would make him still older at this date. The age of Nestor, like the other prominent peculiarities of mythological celebrities, became magnified with the course of the advancing centuries. The older commentators do not appear to have taken the word γένεα to signify an age of the world's history, or century, but a "generation" or period of time in which one set of men flourish, which was usually computed at thirty years. From the date given by Nestor in this speech, Madam Dacier has computed the age of the venerable Pylian chief at the date of "Achilles' wrath": The fight of the *Lapithæ* with the *Centaurs* occurred about fifty-five or sixty years before the siege of Troy; the quarrel between Achilles and Agamemnon happened in the tenth and last year of this struggle. It was, accordingly, sixty-five or seventy years since Nestor was engaged against the Centaurs; he was then capable of giving counsel, so that he cannot be supposed to have been under twenty—from which she concludes that he had now almost arrived at

the end of his third "generation," or had pretty nearly attained to the age of ninety. Against this probable view, I must, however, note that of the prosperous days of Roman mythology—when Ovid counted the γένεα for a century, and professed to believe that Nestor had attained to the age of three hundred years at the close of the Trojan war.

A tendency to magnify the good or prominent qualities of popular heroes, as well as the advantages to be gained by the attainment of the objects of popular pursuit, has always characterised history and literature. The wise men and the giants—the men of renown—of the remote ages were necessarily long-lived, as well as supernaturally gifted in other respects. The universal deluge of the Mosaic record marks a cataclysmic change in the history of human longevity. As Bacon observes—"*Length* of *Life*, immediately after the *Floud*, was reduced to a Moitie . . . Afterward, three generations being run from the *Floud*, the *Life of Man* was brought downe to a Fourth Part of the Primitive Age; that was, to about two Hundred years." The lengths of the early lives recorded in the Book of Genesis need not be more than referred to, as they are familiar to all; I may, however, note that, of the posterity of the sons of Adam, eight generations appear to have carried the representation of Cain down to the building of the Ark, while eleven generations of the line of Seth are found to have occupied the same period—another instance, so frequent in the history of humanity, of the persistent survival of the *un*fittest! The proverbial privilege of long life would tend to diminish the shock of the loss of immortality to our first parents and their more immediate descendants; but if it be true, as some very competent authorities have endeavoured to show, that the *years* of the genealogy of Noah and his ancestors were the *lunar* ones of the Chaldean sacred chronology, each of which was measured—not by a revolution of the earth around the sun, but by a revolution of the moon around the earth—we have an opportunity of seeing how so very ordinary and commonplace an arithmetical process as that of simple division by the number 13, at once reduces a series of

miracles to the level of the most familiar occurrences of daily life.

Like other interesting objects of excessively rare, if not of quite fabulous occurrence, the existence of a person of extreme old age has always excited the greatest curiosity—a fact which helps to account for the periodic record of such prodigies which all ages of the world's history have been found to supply. There are few objects that could be exhibited, even in this extremely matter-of-fact age, which would be likely to attract so large a number of beholders as an authentic duodecagenarian. A brilliant, and decidedly cynical, authoress of the present day makes her English hero inform a friend abroad that there are few "celebrities" in his country, and that these are "chiefly to be found among the jockeys and the divorced women." Such a state of things increases the pity that so fast a century can produce so few centenarian celebrities. When Jean Jacob, the "patriarch of Mount Jura," was deputed (in 1789) by the inhabitants of his native district to thank the National Assembly of France for their delivery from the thraldom of feudal vassalage, in which they and their forefathers had drooped for so many dreary centuries,—every member of that turbulent gathering rose to his feet on the entrance of the venerable man who was authentically reported to have completed the hundred and twenty-seventh year of his age. He was treated by the king with the most deferential courtesy, and ordered a pension for the remainder of his life; which, however, he lived to receive but once, as he died in the following year. This story is paralleled in several of its features by that of the famous Thomas Parr, to which I shall again refer in some detail.

The over-aged man possesses a peculiar interest for the historian and the physiologist, as well as for the ignorant observer of everyday life. Mr. Robert Chambers published in 1847 an interesting paper, entitled "Distant Ages connected by Individuals." He therein states that, "There is living, in the vicinity of Aberdeen, a gentleman who can boast personal acquaintance with an individual who had seen and conversed with another who actually had been

present at the battle of Flodden Field! Marvellous as this may appear, it is not the less true. The gentleman to whom allusion is made was personally acquainted with the celebrated Peter Garden, of Auchterless, who died in 1775, at the reputed age of 131, although there is reason to believe that he was several years older. Peter, in his younger days, was servant to Garden, of Troup, whom he accompanied on a journey through the north of England, where he saw and conversed with the famous Henry Jenkins, who died in 1670, at the age of 169. Jenkins was born in 1501, and was of course twelve years old at the period of the battle of Flodden Field; and on that memorable occasion bore arms to an English nobleman, whom he served in the capacity of page." "When we think of such things," adds Mr. Chambers, "the ordinary laws of nature seem to have undergone some partial relaxation; and the dust of ancient times almost becomes living flesh before our eyes."

The marvellous story of Henry Jenkins would appear to have been one of the best authenticated of any of its kind that have been preserved for the admiration of posterity. The following is an abstract of contemporary and subsequent records:—Henry Jenkins, of Ellerton-upon-Swale, Yorkshire, died 1670, aged 169. He remembered the battle of Flodden Field, fought between the English and the Scotch, Sept. 9, 1513, when he was about twelve years old. He was then sent to Northallerton with a cartload of arrows, but an older boy was employed to convey them to the army. At Ellerton there was also living, at the same time, four or five other old men, reputed to be of the age of one hundred years and thereabouts, and they all testified that Jenkins was an elderly man when first they knew him. Jenkins was once butler to Lord Conyers; he perfectly remembered the Abbot of Fountain's Dale before the dissolution of the monasteries. In the last century of his life he was a fisherman, and often swam in the river after he was a hundred years old. In the King's Remembrancer Office, in the Exchequer, there is a record of a deposition in a cause, taken April, 1665, at Kettlewell, Yorkshire, where Henry Jenkins, of Ellerton-upon-Swale, labourer,

aged 157 years, was produced, and made deposition as a witness. He was buried at Bolton, Yorkshire; where, in 1743, a monument with a suitable inscription was erected to perpetuate his memory.

The still better authenticated case of "Old Parr" possesses the great additional elements of interest offered by the facts that his personal hygiene and dietary have been sung by the notorious "Water-Poet," and that a *post-mortem* examination of his body was performed and faithfully recorded by the illustrious discoverer of the circulation of the blood:—

"Good wholesome labour was his exercise,
Down with the lamb, and with the lark would rise;
In mire and toiling sweat he spent the day,
And to his team he whistled time away:
The cock his night-clock, and till day was done,
His watch and chief sun-dial was the sun.
He was of old Pythagoras' opinion,
That new cheese was most wholesome with an onion;
Coarse meslin bread, and for his daily swig,
Milk, buttermilk, and water whey and whig;
Sometimes metheglin, and, by fortune happy,
He sometimes sipped a cup of ale most nappy,
Cider, or perry, when he did repair
To a Whitson-ale, wake, wedding, or a fair,
Or when in Christmas-time he was a guest
At his good landlord's house among the rest;
Else he had little leisure time to waste
Or at the ale-house, buff-cup ale to taste;
His physic was good butter, which the soil
Of Salop yields, more sweet than Candy-oil;
And garlic he esteemed above the rate
Of Venice treacle or best mithridate.
He entertained no gout, no ache he felt,
The air was good and temperate where he dwelt;
Thus living within bounds of nature's laws,
Of his long lasting life may be some cause."

This wonderful old man was a native of Winnington in Shropshire, where he lived up to a short time before his death, which took place in 1635, at the age of 152 years. The records of the period tell us that: "He was a husbandman by occupation, and when 130 years old was still able to perform almost any description of agricultural labour, even to the thrashing of corn. His diet, up to about the last year of his life, was principally skimmed milk-cheese,

coarse bread, small beer, milk and whey, which he had often used to rise and eat by night, as well as by day; and it is remarkable that he eat at midnight only a short time before he died. At the age of 80 he first married, taking to wife a young woman, Jane Taylor, by whom he had two children, who both died young. With this wife he lived thirty-two years; but during her life, and when 105 years old, he had an illegitimate child by one Catherine Milton, for which he did penance in Alderbury Church. After the death of his first wife he lived as a widower ten years; he then married Jane Adda, who survived him." At the date of this second marriage he had attained the ripe age of *one hundred and twenty-two years!* And still more wonderful is the result—a daughter was born of the marriage!!

Towards the end of his life, the history and personality of the aged Thomas Parr had excited so much curiosity, even in the highest quarters, that the then Earl of Arundel had him conveyed to London at his own expense to exhibit him to the reigning monarch, Charles I. By a curious coincidence, another long-lived celebrity was presented to her Majesty the Queen by the Countess of Arundel about the same time; in the person of a midwife aged 123 years—and who had been engaged in the practice of her profession up to a period within two years of that date. The triumphal journey of the venerable Shropshire patriarch to London was performed in easy stages, but the attention to which his fame subjected him proved very annoying. His lordship had provided a litter and two horses, "for the more easy carriage of a man so feeble and worn with age;" and a horse was provided for his daughter Lucy to ride, who accompanied her father on his journey. "These were all to be brought out of the country by easy journeys to London, the charges being allowed by his lordship; likewise one of his lordship's own servants, named Bryan Kelly, to ride on horseback with them, and to attend and defray all manner of reckoning, and expenses." The progress of the journey has been thus reported by a contemporary chronicler:—

"Winnington is a parish of Alderbury, eight miles from

Shrewsbury; from whence he was carried to Wear, and the next day to Shifnall, a manor-house of his lordship's, where they likewise stayed one night; from Shifnall they came to Wolverhampton, and the next day to Birmingham, and from thence to Coventry, Although Master Kelly had much to do to keep the people off that pressed upon him in all places where he came, yet at Coventry he was most oppressed, for they came in such multitudes to see the old man, that those that defended him were almost quite tired and spent, and the aged man himself in danger of being stifled; and in a word, the rabble were so unruly, that Bryan was in doubt he should bring his charge no further. The trouble being over, the next day they passed to Daintree, to Stoney-Stratford, to Radburne, and so to London, where he was well entertained and accommodated with all things, having all the aforesaid attendance at the sole charge and cost of his lordship."

The journey, however, proved more than his aged constitution could bear: he survived the great honour of his life but a very short time. He died November 5, 1635, and was buried in Westminster Abbey. We are told that: "The cause of his death was attributed chiefly to the change of food and air; for as much as coming out of a clear and free atmosphere, he came, even at that time, into the comparatively more impure air of London, and after a long practised plain and homely country diet, he was taken into a luxurious family, where he was encouraged under the mistaken notion of thereby improving his health, and further prolonging his life, to feed high, and drink plentifully of the best wines, whereby the natural functions of his body were overcharged, his lungs obstructed, and the habit of the whole body quite disordered, the consequence of which was a certain and speedy dissolution. Had such not been the case, the appearance of his body, internally, indicated that he might yet have lived for a number of years."

A *post-mortem* examination of his body was made by the celebrated Dr. Harvey, the discoverer of the circulation of the blood. It was found to be very muscular; the heart was found "large, thick, fibrous, and fat." The abdominal viscera were "sound and strong, especially the stomach."

The kidneys were "covered with fat and pretty sound; only on the interior surface of them were found some aqueous or serous abscesses; but not the least appearance was there, either in the kidneys or bladder, of any stony matter." The seminal tubes were found full of spermatozoa. The brain was "entire and firm."

The literary notoriety of Thomas Taylor has combined with the scientific celebrity of William Harvey to give special prominence to the case of "Old Parr"—

> "From head to heel, his body had all over,
> A quick-set, thick-set, natural hairy cover."

Such was the external feature which, according to the Water Poet, specially characterised the most be-written of the aged prodigies of modern times.

The other case which has taken a specially prominent place in the records of English longevity is that of the Irish friend of Sir Walter Raleigh, of whom he observes, when discussing "Of the long lives of the Patriarchs: and some of late memorie" in the first book of his "History of the World":—"I my selfe knew the old Countesse of *Desmond* of *Inchiquin* in *Munster*, who liued in the yeere 1589, and many yeeres since, who was married in *Edward* the Fourths time, and held her Ioynture from all the Earles of *Desmond* since then; and that this is true, all the Noblemen and Gentlemen of *Munster* can witnesse."

Bacon appears to accept without hesitation the authenticity of the story as related by his great contemporary; and gives further information on the subject of the longevity of the "wild Irish" in general, and of the Countess of Desmond in particular. "Hiberni, præsertim sylvestres, etiam adhuc sunt valde vivaces; certo aiunt, paucis abhinc annis Comtissam Desmondiæ vixisse ad annum centissimum quadragesimum, et ter per vices dentiisse. Hibernis autem mos est se nudos ante focum butyro salso et veteri fricare et quasi condire." I shall again return to this process of anointing: a habit which would appear to have been practised by several of the grand old people of the world's history.

Even after deduction of the fullest allowable discount for the mythology of the more or less mythical records of

the heroes of human longevity, a great deal of useful information may still be gleaned from their study. One feature which can hardly fail to attract the notice of even the most superficial observer, is, that all temperaments are represented on the list of the ultra-centenarians; so that no single type of mental disposition has any such controlling influence as might on first thought be expected. We will see afterwards how the same may be noticed of the dietary and general habits of living.

Starting from the early posterity of Noah, whose ages had been reduced by the flood to a fourth (or less) of that of their antediluvian predecessors—we find the duration of the life of Abraham—"Vir magnanimus, et cui cuncta cedebant prospere"—set down at 175; of Isaac—"Vir castus et vitæ quietioris"—at 180; of Jacob—"Vir patiens, et lenis, et astutus—at 147; of Ishmael—"Vir militaris"—at 137; of Joseph—"Vir prudens et politicus, in adolescentia afflictus, postea in magna felicitate ætatem transigens"—at 110; of Levi—"Vir contumeliæ impatiens et vindicativus"—at 137; of Moses—"Vir animosus, et tamen mitissimus, lingua autem impeditus"—at 120; of Aaron—"Vir lingua promptior, moribus facilior, et minus constans"—at 123; of Phineas—"Vir omnium maxime zelotes"—at 300 ("ex gratia fortasse extraordinaria"); of Joshua—"Vir militaris et dux egregius, et perpetuo florens"—at 110. Job lived one hundred and forty years after his restoration to prosperity—"Vir politicus, et eloquens, et energetes, et exemplum patientiæ." As he had been the prosperous father of grown-up sons before he became the temporary victim of the wiles of Satan, it would appear that thirty-five or forty more years must be added to this number. The elder Tobias attained the age of 158, and the younger 127: both—"Viri misericordes et eleemosynarii." The inspired Elisha—"Vir vehemens et severus, et austeræ vitæ, et contemptor divitiarum"—lived sixty years after the assumption of Elijah, so that he cannot have lived less than his century. Isaiah—"Vir admirabilis eloquentiæ, et propheta evangelizans"—exercised the functions of Divine Seer for a period of seventy years, so that he must have attained to a similar age. This

selection of the more prominent of the post-diluvian marvels of long life shows a sufficiently wide range of temperament; and the records which have been preserved of the phenomenally aged individuals of later times show corresponding variety in this department.

Stranger still, perhaps, is the fact that among those who have been specially favoured by length of days we find every variety of habits, morals, diet, clothing, and general modes of living. The study of the subject might well inspire a homily on the utter uselessness of establishing any definite system of diet, hygiene, or morality, compliance with the Procrustean rules of which would give every individual the best chance of reaching an otherwise unattainable age. Kings, princes, statesmen, soldiers, poets, philosophers, divines, physicians, anchorites, labourers, paupers, lunatics, drunkards, tramps, &c., &c., all are prominently represented in the records of longevity. And a corresponding variety in diet and other physiological and hygienic habits is met with. The most noted case of the more recent centuries is thus referred to by Bacon:—"*Johannes de Temporibus*, among all the men of our latter Ages; out of a common Fame, and Vulgar Opinion, was represented Long liv'd, even to a miracle; Or rather, even to a Fable; His Age hath been counted, above three hundred yeares: He was by Nation a *French Man*; And followed the Warres, under *Charles*, the *Great*." He elsewhere observes that—"being asked, How he preserved himself so long; Is said to have answered *by Oile without, and by Honey within*." The same illustrious philosopher tells us that—"I remember an *old Man*, above an hundred years of Age, who was produced as a witnesse, touching an ancient Prescription; when he had finished his Testimony, the Judge familiarly asked him, How he came to live so long; He answered, beside Expectation, and not without the Laughter of the Hearers; *By Eating before I was Hungry, and Drinking before I was Drie*." The hygienic practices and surroundings of Mrs. Jane Lewson, widow, of No. 12 Coldbath-square, London, who died in the year 1816, at the reported age of 116, are so peculiar that her record is worthy of detailed perusal. "Mrs. Lewson, from the very eccentric style of her dress,

was almost universally recognised as *Lady* Lewson. She was born in Essex-street, Strand, in the year 1700, during the reign of William and Mary; and was married at an early age to a wealthy gentleman then living in the house in which she died. She became a widow at the early age of 26, having only one child, a daughter, living at the time. Mrs. Lewson being left by her husband in affluent circumstances, though she had many suitors, preferred to remain in a state of widowhood. When her daughter married, being left alone, she became very fond of retirement, and rarely went out or permitted the visits of any person. For the last thirty years of her life she had kept no servant, except one old female, who died in 1806; she was succeeded by the old woman's granddaughter, who was married about 1813; and she was followed in the situation by an old man, who attended the different houses in the square to go on errands, clean shoes, &c. Mrs. Lewson took this man into her house, and he acted as her steward, butler, cook and housemaid; and with the exception of two old lap-dogs and a cat, he was her only companion. The house she occupied was elegantly furnished, but after the old style; the beds were kept constantly made, although they had not been slept in for about fifty years. Her apartment was only occasionally swept out, but never washed; the windows were so encrusted with dirt that they hardly admitted a ray of light to pass through them. She had used to tell her acquaintances that if the rooms were wetted it might be the occasion of her taking cold; and as to cleaning the windows, she observed that many accidents happened through that ridiculous practice: the glass might be broke, and the person wounded, when the expense of repairing the one and curing the other might both fall upon her. A large garden at the rear of the house was the only thing connected with her establishment to which she really paid attention. This was always kept in good order; and here, when the weather permitted, she enjoyed the air, or sometimes sat and read by way of pastime: or else chatted on times past with any of the few remaining acquaintances whose visits she permitted. She seldom visited any person

except Mr. Jones, a grocer at the corner of the square, with whom she dealt. She was so partial to the fashions prevailing in her youthful days, that she never changed the manner of her dress from that worn by ladies in the reign of George the First. She always wore powder with a large *toupet* made of horsehair on her head, nearly half a foot high, over which her front hair was turned up; a cap over it, which knotted under the chin, and three or four curls hanging down her neck. She generally wore silk gowns, the train long with a deep flounce all round, a very long narrow waist, very tightly laced up to her neck, round which was a ruff or frill. The sleeves of her gown, to which four or five large ruffles were attached, came below the elbow; a large straw bonnet, quite flat, high-heeled shoes, a full made black silk cloak trimmed round with lace, and a gold-headed cane completed her everyday costume for the last eighty years of her life, and in which habiliments she occasionally walked round the square, when she was uniformly spoken of as *Lady Lewson*. She never practised ablutions of any kind, or hardly in any degree, because, as she alleged, those persons who washed themselves were always taking cold, or laying the foundation of some dreadful disorder. Her method was to besmear her face and neck all over with hogs' lard, because that was soft and lubricating; and then, because she required a little colour in her cheeks to set off her person to advantage, she had used to paint them with rose-pink. Her manner of living was so methodical, that she would not take her tea out of any other than a favourite cup. She was equally particular with respect to her knives, forks, plates, &c. At breakfast she arranged, in a particular manner, the paraphernalia of her table; at dinner she always observed a particular rule as to the placing of the two or three empty chairs, by which the table was surrounded, but she herself always sat in one favourite chair. She constantly enjoyed an excellent state of health; assisted at all times in regulating the affairs of her household; and never, until a little previous to her decease, had an hour's illness. She entertained the greatest aversion to medicine; and, what is remarkable, though many such

instances have been recorded, cut two new teeth at the age of 87, and was never troubled with the toothache. Towards the close of her life her sight failed her. She lived in five reigns, and was believed to be the most faithful living chronicler of the age. A few days previous to her decease, an old lady who was her neighbour died suddenly, which had such an effect upon her that she frequently said her time was also come, and she should soon follow. She enjoyed the use of all her faculties till that period, when she became weak and took to her bed, but steadily refused all medical aid; her conduct to a few relations was extremely capricious, and she would never see any of them; and it was not until a few hours before her dissolution that any relaxation in her temper was manifested."

The intellectual type of humanity occupies a fairly prominent position on the records of longevity. Hippocrates—"omnium Medicorum facile Princeps"—lived to the venerable age of 104, and gave his now too-little-studied "Aphorisms" to the world after he had attained the completion of his century. Democritus, the "laughing philosopher," who elaborated the atomic hypothesis of the constitution of matter, and who despised the recognised objects of human cares too much to ever look on any of them with a grave countenance, lived to the age of 109—"Magnus philosophus, et si quis alius ex Græcis vere physicus; regionum complurium, et multo magis naturæ ipsius, perambulator; sedulus quoque experimentator, et (quod Aristoteles ei objicit) similitudinum potius sectator, quam disputationum leges servans." Epimenides is said to have reached the age of 157—but his biography receives a decidedly mythical coloration from the tradition that 57 of those years were spent in a cave, in one continuous sleep. Xenophanes lived to 102—"vasti procul dubio conceptus, et nihil spirans nisi infinitum." Orbilius, the grammarian, is said to have reached the end of his century. Zeno, founder of the Stoic philosophy, lived 98 years—"Vir animo excelso, et opinionum contemptor, magni itidem acuminis, neque tamen molesti, sed quod animo magis caperet, quam constringeret." Gorgias lived to 108—"Vir rhetor, et prudentiæ suæ ostentator, et qui adolescens mercede accepta ut institueret." Isocrates, to 98—"Rhe-

tor item, sed vir valde modestus, et lucem forensem fugiens, atque domi tantum scholam aperiens." Diogenes, the cynic, lived to the age of 90—"Vir erga alios liber, in se imperiosus; victu sordido et patientia gaudens." Plato, the academician, the prose-poet of Greek philosophy and theology, died at 81—"Vir magnanimus, sed tamen quietis amantior contemplatione sublimis et imaginativus, moribus urbanus et elegans; attamen magis placidus quam hilaris, et majestatem quandam præ se ferens."

Of the preservation of bodily health and intellectual vigour to an advanced old age the most prominent example at present before the world is that of the ex-premier of the British Empire. Even during the now expiring touring season of 1896 the political enthusiast, the literary hero-worshipper, the cosmopolitan globe-trotter, and the impertinent interviewer have, singly or in groups, completed their annual pilgrimages by the easy drive from the Chester terminus to the quiet little Welsh village of Hawarden—from which a hilly-hollow avenue, of considerable length but of otherwise moderate pretensions, leads to the residence of the most brilliant man of his generation. There, in his ultra-conservative-looking, castellated mansion, the gigantic mental powers of the retired Liberal leader have for some time been concentrated on the lines of study which necessarily form the best preparation for the future world, whose portals must soon open to receive him. The resulting tribute which he has just paid to the memory and doctrines of the great theologian who has helped so much to guide him in his spiritual difficulties is the best testimony that now can well be offered of the unflinching earnestness of purpose which through life has characterised his every undertaking.

It may here be noted that the career of Mr. Gladstone well illustrates the observation of Bacon, that variety of mental pursuits tends to the conservation of the mental powers. The brain, like the rest of the body, is the better for varied exercise; the continual focussing of the powers of thought in one direction undoubtedly leads to intellectual weakness—somewhat analogous to the physical ones of writer's cramp, hephæstic hemiplegia, miner's nystagmus, &c., which are, of course, more apparent to the ordinary observer. This

fact furnishes the leverage for the experiments of the hypnotising charlatan; and also accounts for the very usual semi-imbecility of judgment exhibited by the professional "specialist"—even within his own domain, and the more than average ignorance which he almost invariably displays without it. The study of Bishop Butler has proved an inspiring guide, as well as intellectual recreation, for Mr. Gladstone; as that of a far higher authority, THOMAS A KEMPIS, has been for our own Sir Francis Cruise, whose literary tastes and artistic accomplishments correspond with, while they help to adorn, his high professional attainments. And those of us who know him best will be the first to express the hope that his theological curriculum will be at least as prolonged as that of the great English statesman.

(To be continued.)

MURDER IN ITALY.

PROF. BARON GAROFALO, who is recognised as one of the leading penologists of Italy, gave some statistics regarding the annual loss of life by homicide in Italy which were very startling. The total number of murders in Italy, during the last year, was about 4,000, which is equivalent, said the speaker, to a homicide every two hours. This is a very much greater mortality rate than exists in other civilised countries, the ratio in France being one-tenth of that in Italy, and the ratio in Denmark being one-thirty-fifth of that in Italy. This tendency to homicide is due, according to Baron Garofalo, first to the existence of the vendetta, which has lingered longer in Italy than in any other country; then, to the practice of duelling, and, perhaps more than all, to certain defects in education and to racial tendencies.—*Med. Rec.*

THE WHALE CURE FOR RHEUMATISM.

IT is reported that at the town of Eden, a place in Australia which stands on the shores of Twofold Bay, there is a hotel where rheumatic patients congregate. Whenever a whale has been taken the patients are rowed over to the works in which the animal is cut up, the whalers dig a narrow grave in the body, and in this the patient lies for two hours as in a Turkish bath, the decomposing blubber of the whale closing around his body and acting as a huge poultice. This is known as the "whale cure for rheumatism."—*Med. Rec.*

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Physiology and Pathology of the Cerebral Circulation: An Experimental Research. By LEONARD HILL, M.B. London: Churchill. 1896. Pp. 208.

THIS able and important essay contains much which will interest not only the professional physiologist, but also the practical physician and surgeon. It contains the substance of the Lectures given by the author as Hunterian Professor at the London College of Surgeons. It is divided into seven chapters. In the first chapter *the pulsations of the brain* are considered. It is shown that these movements actually take place in the closed cranium; that they are of cardiac and respiratory origin; that the relationship in which the brain stands to the general venous pressure is so close that normally the greatest expansion is in *expiration*. The cardiac pulse is transmitted to the cerebral veins. A limited amount of expansion of the brain is possible owing to the ebb of cerebro-spinal fluid into the vertebral canal, and to the diminution of the calibre of the cerebral veins and sinuses.

In the second chapter on the *Cerebro-spinal Fluid* it is shown that, although the subdural and subarachnoid spaces are anatomically distinct, yet that physiologically they are one, as a free passage of fluid can take place from one to the other; that if the fluid in these spaces is at any pressure above that of the cerebral venous pressure it escapes freely into the veins, so that no pathological increase of cerebral tension can be transmitted by the cerebro-spinal fluid; that the quantity of this fluid present in the cranium is very small, the brain with its circulating blood almost entirely filling the cranial cavity. It is shown that the brain may be irrigated safely through a single trephine hole, and it is suggested that in cases of meningitis this operation might be performed on men without risk.

In the third chapter, on the *Cerebral Circulation*, the absence of cerebral vaso-motor nerves and of every discoverable local vaso-motor mechanism is maintained. The cerebral circulation follows passively the changes in the general arterial and venous pressures, following the latter directly and absolutely, but varying only proportionately with the general arterial pressure. The intracranial pressure is in all physiological conditions the same as the cerebral venous pressure, and there is no compensatory mechanism by which the intracranial pressure is kept constant. It may vary with the circulatory pressure from zero to 50mm. Hg. without disturbance of the functions of the brain. The volume of the blood in the brain varies but slightly under physiological circumstances. A rise of arterial pressure accelerates the flow through the brain, and a fall slackens it. The cerebral circulation is controlled by the vaso-motor centre acting on the splanchnic area. There is no evidence of the causation of cerebral anæmia by spasm of the cerebral arterioles. Arterial hyperæmia does not produce any results of importance, while venous congestion is of great pathological significance.

In the fourth section, on the *Force of Gravity*, it is shown that this is a factor of the greatest importance in the circulation of the blood; that the hydrostatic effects of gravity in changes of position are compensated by the splanchnic vaso-motor mechanism—in the feet-down position the abdominal vessels contract; in the feet-up position they relax. That this compensation is much more perfect in upright animals as monkeys than in rabbits or dogs, and is probably most developed in man. When the power of compensation is damaged by paralysis of the splanchnic vaso-constrictors, induced by severe operative procedures or by injury to the spinal cord, the last stages of asphyxia, or by poisons such as chloroform, then the influence of gravity becomes of vital importance. Under such circumstances in the feet-down position the blood may drain into the abdominal veins, the heart become empty, and the cerebral circulation may cease. In this way death from chloroform may occur if the abdomen be lower than the head. The treatment will be to raise the abdomen above the head, to bandage or compress the abdomen, and, best of all, to perform rhythmic alternate compression

of abdomen and thorax. There are subsidiary mechanisms which compensate for the effects of gravity to be found in the influence of different positions on the rate of the heart beat, and on the mode of respiration. This chapter is full of matter of the most vital practical importance to every physician and surgeon, and cannot be too carefully studied.

The fifth chapter is on *Cerebral Anæmia.* The rapid cessation of the cerebral circulation may be caused by—(1) occlusion of the whole cerebral arterial supply by ligature, embolism or compression; (2) occlusion of all the venous sinuses; (3) by bleeding from a large artery; (4) by sudden vaso-motor paralysis coupled with the effect of gravity. The usual sequence of symptoms thus induced is—(1) loss of consciousness; (2) respiratory spasm; (3) slow heart and rise of blood-pressure, with cessation of respiration; (4) fall of blood-pressure, acceleration of heart, death. These symptoms are comparable with those produced by asphyxia, and show that the bulbar centres are first excited, and then paralysed. The fatal symptoms arise only when the bulbar circulation ceases.

In man sudden anæmia of the cerebrum may cause Jacksonian epilepsy preceding the loss of consciousness. Vaso-motor paralysis may precede and cause respiratory paralysis, but the latter usually precedes and causes the vaso-motor paralysis. Poisons, such as chloroform and amyl-nitrite, by causing vaso-motor and cardiac paralysis, may produce symptoms comparable to the paretic symptoms of cerebral anæmia. The excitatory symptoms of cerebral anæmia may be absent if the animal is in a state of shock, or if the onset of the anæmia is slow. In partial anæmia of the bulbar centres Cheyne-Stokes' respiration and Traube-Hering pressure curves are common. In none of the animals examined does ligature of both common carotids and both vertebrals entirely cut off the blood from the brain. An anastomotic circulation is opened through the intercostal and ascending cervical arteries by way of the anterior spinal and basilar vessels. In goats, horses, nearly all rabbits, and about forty per cent. of cats, this anastomosis is too slight to maintain the activity of the bulbar centres, although its efficiency can be improved by gradual ligature of the four

arteries. All dogs have survived the immediate effects of the quadruple ligature, and four have completely recovered after an initial period of paralysis and idiocy. There is every reason to believe that both common carotids can be safely tied in men if, with intervals of time between, each artery be gradually occluded by means of a screw clamp, so as to allow the expansion of the anastomotic pathways.

In chapter six is recorded an important series of observations on the *Metabolism of the Brain* as measured by the gaseous exchange. It is shown that both in rest and activity the combustion in the muscles is enormously greater than in the brain, and that the active metabolism of the latter, supposed to be demonstrated by Mosso's thermometric observations, does not exist. The low cerebral metabolism explains how the activity of the brain can continue when the blood supply is very largely reduced.

In chapter seven, on *Cerebral Compression*, it is shown that the brain does not transmit pressure equally in all directions; that a local rise of pressure cannot be permanently transmitted to other parts by the cerebro-spinal fluid, as this is rapidly absorbed; that there is a large amount of pressure discontinuity between the cerebral and cerebellar chambers, and complete pressure discontinuity between the cranial and vertebral cavities. This discontinuity is effected by (1) the viscosity of the brain substance; (2) by the tentorium cerebelli and falciform ligaments; (3) by the plugging of the isthmus tentorii cerebelli and the foramen magnum by the pushing downwards (translocation) of the brain mass. The major symptoms of compression are produced by the anæmia of the spinal bulb, and are absolutely comparable to the symptoms of acute cerebral anæmia otherwise produced. A far smaller foreign body kills in the bulbar region and in the cerebellar chamber than in the cerebral chamber. It is not the mechanical pressure, but the cessation of blood flow that produce these symptoms. Any pathological increase of cerebral pressure is circulatory in origin; a foreign body within the cranial cavity obliterates veins and capillaries, and raises the cerebral tension at the seat of obliteration from capillary to arterial pressure. A small opening into the cranial cavity does not necessarily relieve compression.

The foreign body must be removed, or the opening be large enough to allow an equivalent compensatory expansion of the cranial contents. In the latter case the viscosity of the brain mass may prevent the compensatory expansion, and local compression will then continue. Where the primary compression is extensive, the secondary increase of compression can be brought about by congestive or inflammatory œdema, and by a rise of arterial pressure. A circulus vitiosus is established. A similar vicious circle can also be established in cases of embolism, meningitis, cerebral abscess, ventricular hydrocephalus, and cerebral tumour. The danger of this circulus vitiosus increases in proportion to the size of the primary area of vascular obliteration.

An admirable feature in this work is the summary of conclusions which the author gives at the end of each chapter. The above is mainly a transcription of these conclusions. For the methods of research and for many most important and interesting details we must refer our readers to the work itself.

A Text-book of Bacteriology. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General, U. S. Army; Ex-President American Public Health Association; Honorary Member of the Epidemiological Society of London, of the Royal Academy of Medicine of Rome, of the Academy of Medicine of Rio de Janeiro, of the Société française d'Hygiene, &c., &c. London: J. & A. Churchill. 1896. Large 8vo. Pp. 693.

THIS splendid work by a master-hand must be regarded as a sterling contribution to the fast-growing literature of Bacteriology. Large as the volume before us is, it may be considered to be an abridgment of the author's "Manual of Bacteriology," published in 1892. In his preface Dr. Sternberg writes:—"For the benefit of students of medicine and others who do not care especially for the detailed descriptions of non-pathogenic bacteria and the extensive bibliography contained in the Manual, this Text-book of Bacteriology is now published. It comprises that portion of the Manual above referred to as printed in large type, revised

to include all important additions to our knowledge of the pathogenic bacteria since the original date of publication"

The book is divided into four parts, each of which is devoted to a separate subject, and is sub-divided into sections instead of chapters.

The first part is devoted to classification, morphology, and general bacteriological technology. It opens with a brief historical review of the discoveries made in the fertile field of bacteriological research from the time of Leeuwenhoeck, "the father of microscopy" (1675), up to the present day.

We venture to quote the opening sentences of the second section on "Classification" as a specimen of the author's clear, flowing language. He writes (page 10):—"The earlier naturalists—Ehrenberg (1838), Dujardin (1841)—placed the bacteria among the infusoria; but they are *now recognised as vegetable microörganisms*, differing essentially from the infusoria, which are unicellular animal organisms. One of the principal points in differentiating animal from vegetable organisms amongst the lowest orders of living things is the fact that animal organisms receive food particles into the interior of the body, assimilating the nutritious portion, and subsequently extruding the non-nutritious residue; vegetable organisms, on the other hand, are nourished through the cell wall which encloses their protoplasm, by organic or inorganic substances held in solution."

Speaking of bacteria as saprophytes and parasites, Dr. Sternberg points out that the pathogenic organisms, which are known to us to-day only as strict parasites, were probably at some time in the past saprophytes. "The tubercle bacillus, for example, is known to us only as a parasite which has its habitat in the lungs, lymphatic glands, &c., of man and of certain of the lower animals. But we are able to cultivate it in artificial media external to the body; and it is in accord with modern views relating to the development of species to suppose that at some time in the past it was able to lead a saprophytic existence. Not to admit this forces us to the conclusion that at some time subsequent to the appearance of man and the lower animals in which it is now found as a parasite, it was created with its present biological characters, which restrict it to a parasitic existence in the bodies of these

animals, and that, consequently, the immense destruction of human life which has resulted from its parasitic invasion of successive generations was designed when it was created."

The greater portion of the first part is given up to what the author calls "General Bacteriological Technology." but this strikes us as a very stilted heading. Surely "Methods of Bacteriological Research" would be a better title.

At pages 38 and 63 the author describes culture flasks which he designed, and which he has been using constantly since 1881. These ingeniously constructed little flasks are now generally known as "Sternberg's bulbs."

Perhaps the most interesting section in this part is No. XII., in which the process of photographing bacteria is described and explained. That the art has already reached a high degree of perfection is proved by the beauty and finish of most of the photomicrographs which illustrate Dr. Sternberg's book.

In Part II. the general biological characters of bacteria are considered, and an account is given of the action of antiseptics and germicides. Section I. opens with a handy definition—"The bacteria," says Dr. Sternberg, "are unicellular vegetable organisms, and consist of a *cell membrane* enclosing transparent and apparently structureless *protoplasm.*" He shows, however, that there are essential differences in the living cell contents in various species, although these differences are not revealed by the optical appliances at our disposal. He also thinks it is probable that among these lowly plants species are evolved more speedily, as a result of the laws of natural selection, in the struggle for existence, than among those of more complex organisation. At the same time he admits that this has not been proved.

The biological characters of bacteria may be modified in various ways, as is shown in Section III. In general, pathogenic virulence is increased by successive inoculations into susceptible animals, and diminished by cultivation in artificial media under unfavourable conditions, or in the blood of an immune animal. In illustration of the last point, the experiments of Ogata and Jasuhara show that when the anthrax bacillus is cultivated in the blood of an immune

animal, such as the dog or the white rat, its pathogenic power is modified so that it no longer kills susceptible animals, and may be used as a "vaccine."

We have never met a clearer account of putrefactive fermentation than that which is given at pages 138 and 139 in Section IV. of the Second Part, and the same remark applies to Section V., in which the very difficult subject of ptomaïns and toxalbumins is discussed. Among the toxic ptomaïns mention is made of *typhotoxin*, which was first obtained by Brieger from bouillon cultures of the typhoid bacillus which had been kept for a week or more at a temperature of about 37·5° C. In mice and guinea-pigs this base produces salivation, rapid respiration, dilatation of the pupils, diarrhœa, and death in from twenty-four to forty-eight hours. It is believed by Brieger that the specific action of the typhoid bacillus is due to the production of this ptomaïn (page 145).

The name "toxalbumins" was applied by Brieger and Fränkel to very toxic substances of a different nature from ptomaïns, which they discovered in 1890 in cultures of some of the pathogenic bacteria. Toxalbumins have been obtained from *Bacillus diphtheriæ*, *B. typhosus*, *B. tetani*, *Staphylococcus aureus*, *Spirillum choleræ*, and (by G. and F. Klemperer in 1891) *Micrococcus pneumoniæ crouposæ* (*Diplococcus pneumoniæ*). Koch's *tuberculin* is defined as "a glycerin extract of the toxic substances present in cultures of the tubercle bacillus" (page 148).

In Section VI. of this Part the influence of various physical agents on the growth of bacteria is considered. Heat, dry and moist, desiccation, light, electricity, pressure, and agitation are all shown to have a more or less inimical action on their development and even their existence. In 1894 Meltzer showed that their vitality is destroyed by protracted and violent shaking, which causes a molecular disintegration of the cells. As regards the influence of light, Ward's experiments (1892–1894) go to prove that the blue and violet rays have decided germicidal power, while the rays at the red end of the spectrum are comparatively inert. This corresponds with results previously reported by Arloing.

At the beginning of Section VII., which gives a general

account of antiseptics and disinfectants, Dr. Sternberg gives us a new definition of these words. He restricts the use of the term "antiseptic" to agents capable of restraining the development of microörganisms which produce septic decomposition *without destroying their vitality*. The complete destruction of vitality is effected by *germicides* or disinfectants. All disinfectants are also antiseptics, but the converse is not true. Thus a concentrated solution of salt or of sugar will prevent the putrefactive decomposition of organic material, animal or vegetable; but these agents do not destroy the vitality of the germs of putrefaction. In the same way many mineral salts in solutions of various strengths act as antiseptics, and some of these in still stronger solutions are disinfectants. Dr. Sternberg instances mercuric chloride, of which a solution of one in 300,000 will restrain the development of anthrax spores, whereas a solution of one in 1,000 must be used to insure the destruction of these spores.

The succeeding sections are devoted to a consideration of the action of various substances upon bacteria. It will interest many to learn, on the authority of Tassinari, that tobacco smoke restrains the development of bacteria, and that certain species failed to develop after exposure for half an hour in an atmosphere of tobacco smoke—for instance, the spirillum of cholera and Friedländer's bacillus.

Part II. concludes with a section on practical directions for disinfection, based in great measure on "conclusions" arrived at in 1887, by the Committee on Disinfectants of the American Public Health Association.

"Pathogenic Bacteria" form the subject-matter of Part III., which naturally forms the pivot on which the work turns. The first three sections are introductory, and in them the author treats of the modes of action of the pathogenic bacteria, the channels by which they infect the system, and susceptibility and immunity. As regards the latter, he names the exhaustion theory of Pasteur and the retention theory of Chauveau only to reject them in favour of the vital resistance theory put forward by himself many years ago. According to this doctrine, immunity depends upon an acquired tolerance to the toxic products of pathogenic bacteria. Experiment also shows that in certain diseases

acquired immunity depends upon the formation of antitoxins in the bodies of immune animals.

Nearly 350 pages are given up to an account of the various pathogenic bacteria and the diseases they produce. It may be novel to some of our readers to learn that the *Micrococcus pneumoniæ crouposæ* (*Diplococcus pneumoniæ*) plays an important rôle in the causation not only of acute (croupous) pneumonia, but also of broncho-pneumonia, cerebro-spinal meningitis, empyema, endocarditis, influenza, measles, otitis media, ozæna, párotitis, pericarditis, peritonitis, and acute fibrinous pleuritis. In relation to scarlet fever, Dr. Sternberg passes over Dr. Klein's researches in silence, and goes so far as to say that "the specific infectious agent in scarlet fever has not been demonstrated."

The fourth and concluding Part of the work treats of saprophytes as they exist in the air, water, and soil. There are also sections descriptive of the presence of bacteria, both pathogenic and saprophytic, on the surface of the body and of exposed mucous membranes, such as the conjunctivæ, in the stomach and intestine, in cadavers and putrefying material from various sources, and in articles of food, such as milk, meat, butter, bread, and eggs.

A full index brings this very valuable and well-written work to a close.

Étude Physiologique sur les Dinitriles normaux. Toxicité relative. Phénomènes et Méchanism de l'Intoxication. Action antitoxique de l'Hyposulfite de Sou de vis-a-vis de l'Action toxique des Dinitriles. Par les Docteurs J. F. Heymans et Paul Masoin. Bruxelles. 1896. Pp. 116.

In this valuable memoir, published by the Belgian Royal Academy of Medicine, the authors record their experiments on the physiological action of the four first members of the series of the normal dinitriles whose general formula is $CN—(CH_2)_n—CN$. These are cyanogen $CN—CN$; malonic nitrile $CN—CH_2—CN$; succinic nitrile $CN—(CH_2)_2—CN$; and pyrotartaric nitrile $CN—(CH_2)_3—CN$. The experiments were chiefly on frogs, rabbits, dogs, and pigeons;

but many other animals were also employed. The work is one of the highest merit, and a most important contribution to the subject of experimental toxicology.

Surgical Diseases of the Ovaries and Fallopian Tubes, including Tubal Pregnancy. By J. BLAND SUTTON, F.R.C.S. New and Enlarged Edition. One hundred and forty-six Illustrations. London: Cassell & Co., Limited. 1896.

THOSE who are acquainted with the first edition of this work will not require the stimulus of a review to make them anxious to procure this, the second edition. The copious illustrations, the letterpress, and the binding of this work leave nothing to be desired, and reflect the highest praise on the eminent firm of publishers. The book itself, however (though excellent on the whole), has hardly fulfilled our expectations, and this is due to the fact that the author, by his former writings, has set us such a high ideal of perfection.

The work before us is divided into five sections, and contains fifty-four chapters; these run on irrespective of the sections, and so make the discovery of different Divisions a task of some difficulty.

Chapter I. deals with sex and the genital gland; Chapter II. with menstruation—it will be found most interesting reading. The author reiterates his well-known views on the structural changes which occur during the course of this excretion, and goes on to say: "Evidence is rapidly accumulating to show that menstruation and ovulation are not so closely connected as was formerly believed."

In Chapter IV. the observations of Winckel and other writers are called in question concerning their views on the occasional presence of a third ovary. And again, towards the end of the book, when facing the difficult problem of persistence of menstruation, in spite of the removal of both ovaries, the author puts in enlarged type the following sentence: "There is no authentic instance of a third ovary." Many of the older views as regards extra-uterine fœtation are ruthlessly torn up. "The belief that an ovum may be fertilised in its follicle and engraft itself upon the ovarian

tissues and develop into a fœtus has no foundation in fact." The author has little faith in the majority of cases of reputed inflammation of the ovaries apart from tubal disease, and believes the enlargements felt at either side of the uterus in patients suffering from dysmenorrhœa to be due not to the ovaries but rather to the tubes, which have become enlarged by catarrhal inflammation.

On the question of dermoids occasionally exhibiting signs of malignancy, Dr. Sutton's views have undergone some modification; he now says: "My subsequent investigation has, however, failed to detect a single instance which can be used to prove recurrence after removal of a dermoid."

When discussing the methods for diagnosticating ovarian tumours, we read that "in uncomplicated cases the information furnished by vaginal or rectal examination is negative." Thus Hegar's sign—the palpation of the pedicle—is completely ignored, though this is the most valuable of all methods for determining the presence of an ovarian tumour.

In speaking of the symptoms given rise to by an acutely twisted pedicle, Dr. Sutton sums them up in the following terse manner:—"Clinical observations demonstrate that the predominant signs of acute axial rotation of abdominal tumours and viscera are those common to a strangulated hernia, minus stercoraceous vomiting."

Amongst the rarer conditions that may be mistaken for ovarian tumours, the author has seen two kidneys which were in each case displaced into the hollow of the sacrum.

Wandering and enlarged spleens, too, have on many occasions been mistaken for ovarian tumours, and Mr. Lawson Tait is said to have opened the gall bladder in a similar belief.

Tubal pregnancy is fully described in Part III., and we read that "the evidence now indicates that a healthy Fallopian tube is more liable to become gravid than one which has been inflamed."

The hæmorrhage giving rise to tubal mole is shown to be of fœtal origin, and to occupy the subchorionic chamber, or, in other words, to lie between the chorion and amnion.

The author applies the term tubal abortion to the ejection of an impregnated ovum out of the tube into the peritoneal cavity, and this not due to rupture, but by reason of the

insufficient closure of the abdominal ostium. Berry Hart is quoted as proving conclusively that no true growth of the placenta can occur after the death of the fœtus, and—again agreeing with Hart—the author says "there is no such condition as a primary abdominal pregnancy, all forms of extra-uterine gestation pass their primary stages in the Fallopian tube."

The greatest success in this work is not achieved when the author deals with diagnosis and treatment, and we regret to find many resources of modern surgery completely ignored.

Part V. is devoted to methods for performing operations for ovarian and tubal disease.

This section is voluminous as compared with the remainder of the book, and yet we regret to think the information gained by its perusal will barely repay the reader for time occupied in wading through some fifty-three pages.

In conclusion we have to notice a fairly perfect index of authors, as well as an accurate general index, and most heartily commend the work to those of our readers who have not as yet possessed themselves of a copy.

Clinical Diagnosis: A Practical Hand-book of Chemical and Microscopical Methods. By W. G. AITCHISON ROBERTSON, M.D., D.Sc., F.R.C.P.E. London: The Scientific Press, Ltd. 1896. Pp. 366.

THIS little book consists of a description, in the fewest words possible, of the various microscopical and chemical methods of procedure in clinical diagnosis. Its brevity is remarkable: not a word is wasted—in fact, we are reminded of those editions of Euclid in which to save space all kinds of abbreviations are used. In this work the sign = is constantly employed. The result of this brevity is that a great deal of information is contained in a small space; in fact, we have been surprised at the amount contained in this work. We might perhaps best give an idea of the work by quoting some of its contents (taken at random from different chapters):—

"Desmodex (*Sic.*) Folliculorum.
Found in sebaceous glands of Nose.
Cheeks.
External auditory meatus.
Microscopically—
Long narrow animal.
Four pairs of short legs anteriorly.

"Pediculi (Lice).
(I) pediculus capitis.
Found in hair of scalp.
Head—mouth small, tubular, with sucker.
Body flat.
transparent.
segments distinct.
Legs—three pairs.
short.
clawed.

"Pulse Rate.
Normal Frequency—
Adult male, 65–75.
Adult female, 70–80.
Children—varies with age, 80–90.
(*a*) *Increased frequency of Pulse Beat*—
(1) Fevers (except enteric and occasionally meningitis).
(2) Great debility.
(3) Nervous diseases, as
Exophthalmic goitre.
Hysteria.
(4) Mitral regurgitation.
Occasionally also in aortic regurgitation."

and so on.

The chief disadvantage we see in this brevity is that it causes many statements to be too dogmatic. It is not possible in so few words to include exceptions to the general rule. Thus, we find under the heading Sugar in Urine (glycosuria) the statement, "High specific gravity (above 1030) along with pale colour." Saccharine urine often has a very high specific gravity, but it is a mistake to imagine it always has. Trichomonas vaginalis is included in the description of vaginal secretion as if its presence was as normal as that

of squamous epithelial cells. Curiously enough, the description of gonococci is included under the heading "Seminal Fluid."

There are a good many woodcuts of urinary deposits, microbes, &c., but they are so coarsely and roughly drawn we have no hesitation in saying they are simply disgraceful.

A great deal of information may be derived from this work, but it should be assimilated *cum grano salis*. Such general principles as it asserts will not be found to exist in practice; and the reader must expect to find that in clinical medicine, as elsewhere, there is no rule without its exception.

The Biological Problem of To-day; Preformation or Epigenesis? The Basis of a Theory of Organic Development. By PROFESSOR W. OSCAR HERTWIG. Authorised Translation by P. CHALMERS MITCHELL, M.A. London: William Heinemann. 1896. Pp. 148.

THIS volume, which forms one of Heinemann's series of scientific hand-books, contains an exceedingly valuable criticism of the now well-known views of Weissmann on heredity and development. The competence of Professor Hertwig to offer such a criticism is unquestionable, and no one who reads this work can fail to acknowledge the force and cogency of the arguments adduced against the preformation theory, and to recognise the fairness and impartiality displayed at each stage of the argument.

The difficulty of the subject is very great, and the number of unfamiliar terms employed increases the labour of reading the work in the original. Indeed, to anyone who is not a biologist the discussion would be, in many parts, all but unintelligible. The excellent translation before us is, therefore, a very welcome addition to English scientific literature, and cannot fail to greatly extend the knowledge of the present condition of one of the most important and interesting biological problems which are at present agitating the minds of scientific men.

Not only has the translator successfully overcome the difficulties of finding appropriate English terms for many

German words very hard to render into another language, but he has written himself a short introduction, in which the general problem is stated in such a way as to make it intelligible to general readers.

Our space would not admit of our following the author through his reasoning, or of giving the grounds on which he opposes the views of Weissmann. We can only say that Hertwig endeavours to reconcile the opposition between evolution and epigenesis by assuming a germ plasm of high and specific organisation, while he believes that it is transformed into the adult product by epigenetic agencies. Such a theory does not pretend to explain all the problems involved in the course of organic development. In this it differs from Weissmann's theory of determinants, which is a closed system, professing to explain everything, but by its very nature barren to investigation, as there is no means by which investigation may put it to the proof.

We need only repeat our sense of the very great value of Professor Hertwig's work, and of the great excellence of the translation, and recommend the volume most heartily to the consideration of our readers. The very full glossarial index appended to the text cannot fail to increase its usefulness to the general reader.

Edinburgh Hospital Reports. Published under the Supervision of the Editorial Committee of the Royal Infirmary, Royal Hospital for Sick Children, and Royal Maternity and Simpson Memorial Hospital. Edited by G. A. Gibson, M.D., D.Sc.; C. W. Cathcart, M.A., M.B.; John Thomson, M.D.; D. Berry Hart, M.D. Vol. IV. Edinburgh and London: Young J. Pentland. 1896. Pp. 606.

This handsome volume contains forty-seven papers, all of interest and importance, besides forty-six pages of statistical matter. It is well brought out, and copiously illustrated by plates and figures in the text.

The papers deal with an immense variety of subjects. Dr. Carmichael gives a description of the new Royal Hospital for Sick Children, recently erected at a cost of £40,000; Mr. Easterbrook pleads for a more natural and uniform

clinical method, and gives some valuable clinical axioms and memoranda. In an interesting paper Mr. Ker gives the results he has got in the treatment of typhoid fever by the naphthols—hydronaphthol, benzonaphthol, and naphthol β. were employed. It was found that they do no injury to the patient. They do not influence the duration of the disease. They diminish the offensiveness of the stools and control tympanites. They do not affect the pyrexia, or the progress of the ulceration, and they do not prevent relapse. An exceedingly valuable paper, by Mr. Leith, deals with phlegmonous gastritis. In this work a case of the diffused form is recorded; the whole subject is considered, and a very extensive review of the literature is given. It is probably the most important contribution to our knowledge of this rare and dangerous disease which has as yet appeared.

Dr. J. Thomson records two cases of congenital hypertrophy of the pylorus and stomach wall—a condition which he attributes to a derangement of the nervous mechanism which regulates the contraction and relaxation of the pylorus under appropriate stimuli. Two papers—one by Dr. Russell, the other by Dr. Muir—deal with necrotic hæmorrhagic pancreatitis, a condition difficult of recognition and probably often overlooked. Dr. Gillespie studies the effect of carbonic acid on gastric digestion, and comes to the conclusion that effervescent drinks should be given in the acid type of dyspepsias before or with food; in the atonic varieties after food. Dr. Stockman records a case of pernicious anæmia, with distension of the large intestine; and Drs. Byrom Bramwell and Gulland report a most curious and interesting case of calcareous degeneration of the heart and arteries occurring in a patient, one of whose kidneys was atrophied and the other cirrhotic. A case of purulent pericarditis treated by drainage, and proving fatal by repeated hæmorrhage, by Dr. Underhill; a paper by Dr. Gibson on cardiac pain and its relief; and a remarkable case of intra-thoracic tumour, by Dr. Affleck, follow. Dr. Gibson writes on pneumothorax produced by physical exertion, and Dr. Hutton on the causation of sudden death in empyema—a subject which he has investigated experimentally in animals. A valuable paper on so-called epispadias in women, by Dr. Ballantyne, gives a new

case and an extensive review of the literature of this interesting malformation. Dr. Gulland records a not very encouraging series of experiments on the effects of drugs, given internally, on bacteriuria; and Dr. Jamieson writes on diffuse infiltrated scleroderma and cancer *en cuirasse*. Several papers on diseases of the nervous system follow. The Coincidence of Facial Paralysis with acute Anterior Poliomyelitis, by Drs. Gibson and Cattanach; Facial Paralysis and Sense of Taste, by Dr. Turner, in which paper the paralysis of the soft palate is also considered; Cervical Opisthotonos in Children, by Drs. Beattie and Selby; Functional Laryngeal Motor Paralysis, by Dr. A. L. Turner; So-called Causeless Hemiplegia, by Dr. Philip; Cases of Aphasia, by Dr. Stalker; a Case of Loss of Speech in a Child, with Gradual Recovery, by Dr. Lundie; Degenerative Changes in the Brain-cells of the Non-Insane, by Dr. Hutchison, who shows with what caution we must proceed in deciding as to whether or not the ganglionic cells are really in an abnormal condition. Two papers on the Causation of Hæmatoma Auris, by Dr. Robertson and Dr. Welsh; one on the Thyroid Treatment of Insanity, by Dr. Bruce; and Dr. Gillespie's Notes on the Medical Statistics of the Royal Infirmary, conclude the papers on medical subjects.

The surgical papers are of no less interest and variety. Dr. Miller writes on the Teaching of Clinical Surgery; Professor Chiene continues from a former volume his Practical Observations in Surgery; Mr. Wallace deals with the administration of chloroform, which he maintains should be undertaken on four definite principles—1. The patient should be in the recumbent position. 2. Plenty of chloroform should be given. 3. The respiration should be absolutely free, and, along with the appearance of the face, should be alone considered as a guide to safety. 4. The patient should be thoroughly "under" before any operative interference is begun. Dr. Duncan contributes a most important and encouraging paper on Laparotomy in Tubercular Peritonitis. Of twenty-one cases "one died two years after the first operation, the abdomen having been reopened several times to relieve tension. In three the abdomen, when last seen, was still somewhat swollen and resistant; one patient, aged

twenty-eight, returned on account of localised abscess in the neighbourhood of the wound; and one, aged five, with a fæcal fistula; while another, aged six, has recently come to the Infirmary to be treated for tubercular elbow, with the abdomen perfectly well. The others recovered, to all appearance completely, and have remained well for varying periods up to four years." Dr. Lundie records a successful case of laparotomy for perforation of gastric ulcer; Drs. Gibson and Thomson two cases of resection of pylorus for cancer—one fatal from septic peritonitis, the other successful. Drs. Stockman and Caird report the favourable result of pyloroplasty and Bircher's operation in a case of dilatation of the stomach. Mr. Cotterill details the particulars of a case of hepatic abscess, complicated by double pneumonia and pleurisy, and terminating in cure; and Dr. Bell contributes clinical notes on some varieties of osteomyelitis. Dr Stiles writes a long and important paper on the Morbid Anatomy and Pathogenesis of Chronic Internal Hydrocephalus, founded on the Examination of Two Cases by the Method of Frozen Sections. Dr. M'Laren records three cases of intracranial suppuration following middle ear disease, all terminating fatally. Dr. A. Thomson gives Four Cases of Perforating Ulcer of the Foot; Mr. Catheart writes on Inflammation of the Prostate. A contribution to intraocular therapeutics, by Dr. Berry; a paper on the Time for Operating in Unilateral Cataract, by Dr. Sym; and one by Professor Simpson on Double Salpingo-Oophorectomy in the Treatment of Uterine Fibroids, conclude the volume.

Our readers will see the wide range of subjects dealt with by the authors of these papers, and will get some idea of the great value of the volume, of which the Profession in Edinburgh may justly feel proud.

Kirkes' Handbook of Physiology. By W. D. HALLIBURTON, M.D., F.R.S. Fourteenth Edition. London: John Murray. 1896. Pp. 851.

THIS edition of Kirkes' Physiology is really a new book. Professor Halliburton has completely re-arranged the matter, and re-written almost every page. While many of

the old illustrations, whose beauty helped to make the former editions so popular, have been retained, numerous additions have been made, so that the drawings now number 661, as against 516 in the thirteenth edition.

The remodelling of the text has been effected without adding to the bulk of the volume. The number of pages is 851, as against 884 in the thirteenth edition.

In the older editions the so-called vegetative functions were first dealt with, and after the blood, circulation, respiration, digestion, excretion, and metabolism had been disposed of, the nervous system and the special senses came under consideration. But in the present edition Professor Halliburton has adopted a different order. After chapters on the cell and the simple tissues, general muscle and nerve physiology is treated of in nine chapters. Then comes the physiology of the nerve centres, followed by that of the organs of special sense, and then the vegetative functions are taken up in the usual order, except that the circulation of the blood is described before the blood itself is dealt with. Another peculiarity is the intercalation of a chapter on voice and speech between the chapter on hearing and that on vision.

For the way in which the different subjects are treated we have nothing but praise. The style is easy and clear, while the descriptions are in all cases well up to date.

As in former editions account is always taken of the requirements of medical students, for whose use the work has from the first been specially written. A distinguishing feature in Kirkes' has always been the space allotted to histology. In the present issue this feature has been retained and extended, so that in its pages the student will find a good account, not only of the functions, but of the minute anatomy of the body, illustrated by beautiful drawings taken from the best and most recent sources.

On the whole this edition may be recommended in the strongest terms to all medical students of physiology, as one of the very best text-books in existence on the difficult and important subject with which it deals, and we cannot doubt that its popularity will equal or surpass that of the former editions.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By Henry T. Bewley, M.D. Univ. Dubl.; F.R.C.P.I.; Assistant Physician to the Adelaide Hospital; and Lecturer on Medical Jurisprudence in Trinity College, Dublin.

I. ON TAPPING THE VERTEBRAL CANAL.
II. CASES OF RECOVERY FROM TUBERCULAR MENINGITIS.
III. ON THE CLINICAL DIAGNOSIS OF DIPHTHERIA.
IV. THE CAUSE OF SUDDEN DEATH AFTER INJECTIONS OF ANTITOXIN.
V. ON APYRETIC TYPHOID FEVER.
VI. TRANSFUSION OF BLOOD IN SEVERE CHRONIC ANÆMIA.
VII. ADDISON'S DISEASE TREATED WITH EXTRACT OF SUPRA-RENAL CAPSULES.

I. TAPPING THE VERTEBRAL CANAL.

This method of diagnosis was first suggested by Quincke in 1891, but was not much employed. Recently, however, evidence is accumulating as to its value in certain cases. The procedure depends on the fact that communication exists between the subarachnoid space surrounding the spinal cord on the one hand and the cerebral subarachnoid and ventricular spaces on the other.

The tapping is carried out as follows:—A large-sized hypodermic needle is inserted between the 3rd and 4th, or 4th and 5th, lumbar vertebræ, either in the middle line exactly between the spinous processes, or else a little to one side. The needle readily enters the spinal canal, and if in the right place can be moved about freely. Aspiration need not be used, as in cases where there is any excess of cerebro-spinal fluid it comes away freely through the needle. While the needle is *in situ* the patient should not make any active

movements, lest the needle be broken. The patient should be sitting up, supported by attendants if necessary, and his body should be bent forwards. If necessary an anæsthetic may be given, but in semi-comatose patients it will not be needful.

Quincke recommended this treatment to relieve pressure symptoms in acute hydrocephalus, and in order to distinguish between purulent and tubercular meningitis. In some cases pus cocci have been found; in others tubercle bacilli.

In tubercular meningitis the fluid is always clear and watery; in other forms of meningitis it is cloudy or turbid.

Dr. Caillé reports four cases. In two cases of tubercular meningitis bacilli were found in the flaky sediment that subsided when the fluid stood for 24 hours. In a case of acute mania in a woman 50 cc. ($1\frac{3}{4}$ oz.) of clear serum came freely; the needle entered the vertebral canal at a depth of 4 centimetres ($1\frac{1}{2}$ inches). He says this is a safer procedure in chronic hydrocephalus than tapping the ventricles.—*N. Y. Med. Jour.*, June 15, 1895.

On the Clinical Value of Spinal Puncture.—Dr. Fürbinger gives statistics of 86 cases, in which in all over 100 punctures were made. He says there is no difficulty in making the puncture; and he met with no accidents. Anæsthetics are not needed. The patient should be in the sitting position during the procedure. The puncture is only painful if aspiration is employed to suck out fluid: this should never be done. He attaches no diagnostic importance to the amount of fluid which drops or flows through a canula with a lumen of 1 mm. ($\frac{1}{25}$th inch) in diameter. Sometimes a little blood from the puncture wound is mixed with the fluid. Slight symptoms of irritation in the legs are of no importance; serious lesions never follow the puncture.

As far as clinical results are concerned, the most important information was gained in cases of tubercular meningitis. In 30 out of 37 cases of this disease tubercle bacilli were found in the fluid by microscopic examination. The centrifuge is not needed; the bacilli are most readily found in the little fibrinous particles floating in the fluid. In no case had the puncture any effect in curing the cases.

In two cases, from the bloody nature of the fluid, the

diagnosis was correctly made that a hæmorrhage had burst into the ventricles; seeing, however, that the puncture occasionally causes bleeding, such a diagnosis must always be somewhat open to doubt.—*Berlin. klin. Wochenschrift*, 1895, No. 13.

Lichtheim (Königsberg), in the same number of the *Berlin. klin. Wochenschrift*, writes on the same subject. Not much therapeutic result is to be expected from the puncture; it is, however, a most important aid to diagnosis. In all cases of purulent inflammation in the cranial cavity a spinal puncture should be made in order to exclude the presence of purulent meningitis before any operative measures are undertaken. In most cases of purulent meningitis streptococci were found; in one case, however, the fluid was sterile.

In tubercular meningitis the fluid was usually clear, containing a few leucocytes; in a few cases it was cloudy. Very often bacilli may be found in it, though they may be few in number and hard to find; but by examining the particles of lymph in the fluid and by the use of the centrifuge, Lichtheim always succeeded in finding them.

In one of his cases, headache, giddiness, and pains in the chest and legs came on to an alarming degree during the puncture.

Lumbar Puncture.—In an interesting article on the above subject, Jacoby reports two cases of spinal hæmorrhage in which this procedure was made use of with beneficial results.

Both cases followed direct injury from falls, the symptoms being a more or less complete numbness of the lower extremities, with loss of control over the sphincters and anæsthesia below the point of injury. The numbness of the limbs followed shooting-pains in the back in both cases. The objective signs were bruising of the integument over the injured area, without signs of fracture or dislocation, and the numbness and loss of power above mentioned. The diagnosis was made in each case of intra-meningeal spinal hæmorrhage with compression of the cord.

In one instance fifteen and in the other twenty cubic centimetres of blood were drawn by lumbar puncture, confirming the diagnosis. One patient who had had marked pressure-symptoms very quickly showed improvement fol-

lowing the procedure, but a certain amount of weakness of the lower limbs remained permanently.

In the second case the recovery was slower, but more complete. Jacoby does not insist on the curative agency of the lumbar puncture, but holds that at any rate it must reduce the local pressure and leave less blood in the spinal canal to be absorbed. Of the diagnostic value of the procedure in similar cases there is no doubt.—*New York Medical Journal*, January 4, 1896, and *Amer. Jour. Med. Sci.*, March, 1896.

Lumbar Puncture of the Subarachnoid Space.—A. H. Wentworth summarises the results of some experimental work on the subject as follows:—1. The normal cerebro-spinal fluid contains neither cells nor fibrin, and is perfectly clear. 2. In cases of meningitis the cerebro-spinal fluid is invariably cloudy when withdrawn. The degree of cloudiness is to some extent proportionate to the amount and character of the exudation in the meninges. 3. The cloudiness is caused by cells. The character of these differs according to the variety of the meningitis. After withdrawal, more or less fibrin is formed in the fluid. The presence of these cells and fibrin is pathognomonic of inflammation in the meninges. 4. The cloudiness is oftentimes so slight that close observation is necessary to detect it. 5. The operation is not difficult to perform on infants and children. It is not dangerous if strict cleanliness is observed. 6. The differential diagnosis between the various kinds of meningitis can be made by microscopic examination of the sediment, by cultures taken from the fluid, and by inoculation experiments. 7. Inoculation experiments afford the surest means of determining tuberculous meningitis. It is of value to distinguish between the varieties of meningitis in order to determine if tuberculous meningitis is recovered from. 8. In the normal fluid a faint trace of albumin is usually present, about one-fiftieth of 1 per cent. or less by quantitative analysis. In meningitis the amount of albumin is increased, and has varied from one-thirtieth to one-tenth of the 1 per cent. 9. In one case a diagnosis of general infection with the Staphylococcus pyogenes aureus was made from cultures taken from the cerebro-spinal fluid.—*Archives of Pedriatrics*, Aug., 1896, and *B. M. Jour. Suppl.*, Sept. 5, 1896.

II. RECOVERY FROM TUBERCULAR MENINGITIS.

To the few cases positively recognised, Janssen, of Maastricht, adds the following:—An infantry corporal, nineteen years of age, was admitted to the hospital on account of headache, stupor, and pain in the extremities. The previous history was negative; no tuberculosis; no syphilis. The headache was chiefly frontal. The conjunctivæ were injected, the pupils unequal; no strabismus. There was frequent vomiting; the bowels were confined; pulse 92, dicrotic; respiration superficial. The diagnosis of meningitis was confirmed by the after-history. The pulse became slower, reaching 42; the temperature was only moderately elevated; headache, often most intense, persisted; dilatation of the pupils, strabismus, opisthotonos, taches cérebrales, hyperæsthesia of the skin, contractures in the left knee, involuntary evacuation of urine and fæces, sordes on the lips, teeth, and tongue, and complete unconsciousness appeared. Sixteen days after admission the condition improved, and a month later the patient was discharged well. Later, symptoms of pulmonary tuberculosis came on, and the man died three months and a half after the onset of the meningitis. The autopsy revealed masses on both sides of the longitudinal fissure, 4 cm. long and not quite 2 cm. wide. These were made up of soft, friable tubercles, following the course of the vessels. Smaller tubercular masses were also present on the base of the brain and on the optic chiasm.

The treatment of the meningitis consisted in ice-bags to the shaved head, poultices over the whole body up to the neck, leeches to the septum of the nose, and potassium iodide, internally, in doses of at first 8 grammes daily, increased to 40 grammes—altogether 950 grammes. The drug was borne without serious effects. All the secretions contained iodine, and to this the author ascribes the recovery.—*Deutsche med. Wochenschrift*, and *Amer. Jour. Med. Sci.*, July, 1896.

A Case of Tubercular Meningitis which ended in Recovery.—Freyhan also has recorded a case in which the patient recovered, although he certainly suffered from tubercular meningitis. The spinal puncture was performed in this case, the needle being introduced between the second and third lumbar vertebræ, and 60 cc. (about $1\frac{3}{4}$ oz.) of slightly

turbid serous fluid readily flowed out. In the sediment a few pus corpuscles were found, together with typical bacilli. After the puncture the patient improved so rapidly and steadily that in three weeks he was able to leave his bed.

This seems to be the first case in which a meningitis ending in recovery has been certainly proved to be tubercular.—*Deutsche med. Wochenschrift*, 1894, No. 36.

III. ON THE CLINICAL DIAGNOSIS OF DIPHTHERIA.

Although the information to be derived from bacteriology in cases of suspected diphtheria is of great value, nevertheless it is not always easy to obtain this information. and in every case we must wait some time before the information is forthcoming. It is, therefore, advisable to learn all that can be acquired from clinical observation, especially when combined with bacteriological investigation.

Dr. Deucher records the result of the examination for the Löffler bacillus in a large number of cases of suspected croup, or diphtheria, admitted to Prof. Sahli's wards.

A.—Fauces.

	No. of cases examined	Löffler bacilli found in
I. Diphtheria with typical membrane ...	75	75
II. Angina without typical membrane :—		
1. Punctiform diphtheria of the tonsils—		
(α) Without laryngeal obstruction	4	4
(β) With ,, ,,	11	11
2. Follicular tonsillitis	6	0
3. So-called streptococcus diphtheria ...	1	0
4. Angina catarrhalis—		
(α) Without laryngeal obstruction	5	3
(β) With ,, ,,	26	16
5. Angina necrotica, &c.	3	1
III. Normal tonsils	15	8

B.—Larynx and Trachea.

I. Croup, with distinct membrane ...	77	76
II. Croup, without ,, ...	27	7

In addition to the typical forms of diphtheria, follicular tonsillitis, &c., there are other cases in which the diagnosis is less certain, and which are variously described by different physicians. The most important forms are the punctiform

diphtheria, scarlatinal diphtheria, and streptococcus diphtheria.

Punctiform diphtheria resembles follicular tonsillitis in many points. There are, however, some differences.

In *follicular tonsillitis* there is a deposit of pus in the crypts of the tonsils. The patches which are thereby produced are seated a little below the surface. They are always round, or, when they have become larger by confluence, irregular, with rounded margins. The colour is yellow. Frequently the spots may be squeezed out as plugs. In many cases these purulent plugs are not seen superficially projecting from the mouths of the crypts, but appear rather as more deeply seated points shining through the superficial tissues. These deeper spots are the result of the border of the crypt becoming swollen and closing over the plug, or they are due to the crypt being twisted, the blind end approaching the surface.

In *punctiform diphtheria*, on the other hand, the small patches are seated on the most prominent parts of the tonsils; they are frequently round, but here and there they present a more ragged, sharp-bordered appearance. The colour of the patches is whitish. The points can never be squeezed out: here and there they can be torn away as small shreds; often they are too firmly adherent to be torn away. Although the author has never seen any extension to the uvula and soft palate in these cases, yet he thinks this may possibly occur, while no such extension will occur in follicular tonsillitis. If laryngeal obstruction also occur, the clinical diagnosis of diphtheria is certain. Bacteriology, however, shows that the cases may be truly diphtheritic even when there is no laryngeal lesion.

From true diphtheria is also to be distinguished the streptococcus pseudo-diphtheria. When the membrane is two or three days old, in the bacillary form the membrane is pure white or greyish-white; in the streptococcus form it is of a yellow tint. The true diphtheritic membrane remains tough for a long time; the streptococcus membrane, even from the first, is characterised by a tendency to crumble away and break up.—*Correspondenzblatt f. schweitzer Aertzte*, Aug. 15, 1895, and *Med. Chron.*, Oct., 1895.

IV. THE CAUSE OF SUDDEN DEATH AFTER ANTITOXIN INJECTIONS.

Although such cases are fortunately rare, still sufficient have occurred to make the elucidation of their cause most desirable.

All arguments point to the fact that death is caused by something introduced under the skin and not by shock. The laboured respiration, the cyanosis, and the subsequent cessation of respiration reported in these cases, give a clear picture of death from suffocation. In endeavouring to ascertain the cause of these symptoms Drs. Seibert and Schwezer undertook a number of experiments to determine—

1. Whether large quantities of *fresh* anti-diphtheritic serum brought directly into the blood of an animal could produce unfavourable symptoms or death.

2. Whether large quantities of *old* antitoxin could cause trouble when used in this manner.

3. Whether sudden death after an antitoxin injection is due to the *carbolic acid* which is used in preserving the serum.

4. Whether sudden death was due to the introduction of *air* into the circulation during the injection.

The experiments were numerous, and are detailed at length in the original.

The authors' conclusions are—

1. The antitoxin does not seem capable of producing threatening symptoms and sudden death, even when brought quickly into the blood current in large doses.

2. The carbolic acid used as a preservative is in such a weak solution as to be unable to do harm. Besides, fatal doses of carbolic acid introduced into the the circulation produce characteristic convulsions—symptoms entirely unlike those noticed in death after antitoxin injections.

3. Even very small quantities of air introduced into the blood-vessels caused severe disturbances and ultimate cessation of breathing in every animal experimented upon. These symptoms resembled closely those observed in cases of sudden death after the use of antitoxin. A little air may be injected along with the serum, and being pressed under the skin with the fluid may come in contact with a punctured

cutaneous vein, and so may enter the blood-vessel and the right heart.

The authors, therefore, express the firm opinion that the sudden deaths reported after antitoxin injections were due to injected air and not to the serum.—*N. Y. Med. Jour.*, 1896, No. 22, and *Archives of Pediatrics*, July, 1896.

V. APYRETIC TYPHOID FEVER.

This designation ought to be reserved for cases in which the temperature remains normal or sub-normal throughout the course of the attack, in the absence of collapse, although there may be transitory elevation as a result of complication. All other symptoms may be present as in a typical case of typhoid fever. During most of the attack the temperature ranges between 97·2° in the morning and 99·5° in the evening. The pulse is variable—sometimes it is slow; more often it is normal; sometimes it is increased in frequency. It is difficult to recognise the different stages of the disease, as these are usually indicated by the course of the temperature curve. Convalescence is sometimes protracted, the patient remaining feeble and emaciated for a long time. The same complications may arise as occur in the ordinary form of the disease. Exceptionally cases of typhoid fever occur in which the temperature is subnormal throughout. In these the temperature curve is usually of the inverted type, the records being highest in the morning and lowest in the evening. An enlarged spleen and rose spots are important from a diagnostic point of view.

In explanation of these apyretic forms of typhoid fever it is assumed that the kidneys do not perfectly eliminate the poisons produced by the disease; experimental research has shown that at times the urine of typhoid fever patients contains toxic bodies capable of causing depression of temperature. It is supposed that, in some cases, there is a preponderance in the products of the activity of the typhoid bacillus of bodies capable of causing such depression.

Therapeutically the absence of fever affords no special indication. Antipyretics have been found to cause elevation of temperature.—*L'Abeille Médicale*, and *Amer. Jour. Med. Sci.*, July, 1895.

VI. TRANSFUSION OF BLOOD IN SEVERE CHRONIC ANÆMIA.

Ewald was called to see a man, aged thirty-two years, apparently in collapse. The history obtained then, and examinations made afterward, showed the case to be one of idiopathic anæmia, having many of the characteristics of the so-called pernicious form. The patient could not swallow, injections of camphor had no effect on him, and, as a last resort, apparently a hopeless one, transfusion was practised. The blood was taken from the patient's wife, defibrinated, and injected into the median vein to the amount of about 85 ccm. Anæsthesia was not necessary. The patient's pulse and breathing improved slightly after the transfusion, but injections of ether and camphor were necessary throughout the following night. On the second day after that strength gradually returned and the patient became convalescent. On the third day the blood showed 1,250,000 red corpuscles and 29 per cent. of hæmoglobin. There were few polynuclear leucocytes, no nucleated red corpuscles, very few eosinophile-cells. There were hæmorrhages in the retina. The blood after two weeks showed 2,300,000 red corpuscles and 33 per cent. of hæmoglobin. Five months later the hæmoglobin was the same, the red blood-corpuscles 3,500,000 to the ccm.

After discussing the clinical and pathological features of the case—which he does at some length—Ewald inclines to the opinion of Hunter, that pernicious anæmias are due to auto-intoxication caused by changes in the gastro-intestinal tract. In view of our present knowledge of auto-intoxication and antitoxins Ewald raises the question whether, in such cases as the one just cited, the injected blood has not some antitoxic action, so that a poison circulating in the body becomes neutralised or destroyed by it, and so gives the body time to gain new strength.

In addition to the transfusion and after it, the patient was treated by arsenic in various forms, quinine, iron, hydrochloric acid, and a combination of resorcin, bismuth-salicylate, and benzo-naphthol. Meat was but sparingly used in the diet.—*Berliner klin. Woch.*, No. 45, 1895, and *Amer. Jour. Med. Sci.*, Feb., 1896.

VII. ADDISON'S DISEASE TREATED WITH EXTRACT OF SUPRARENAL CAPSULES.

Dr. W. Osler (Baltimore) records notes of six cases of Addison's disease, one of which is especially interesting, as in it he found treatment with suprarenal extract of great value.

The patient, a man aged 46, was admitted to hospital on May 3, 1895, complaining of cough, shortness of breath, great weakness, and bronzing. These symptoms had lasted for two years, and were increasing in intensity. He had lost much flesh. He was on admission intensely bronzed; his weight was 7st. 11lb.; moist râles were heard in the left apex; he expectorated about eight ounces of sputum daily, in which tubercle-bacilli were subsequently found. The pulse rate was from 120 to 130; temperature from normal to 101° F.; respirations from 25 to 35. The general prostration and the rapidity of the heart action were out of all proportion to the amount of disease in the lung.

On May 16 the treatment with suprarenal extract was begun. Thirty-six pigs' suprarenals were obtained at the time of slaughtering, cut up finely, thoroughly powdered with pestal and mortar, and to this mass about six ounces of pure glycerine were added, and the whole allowed to macerate for thirty-six hours in a refrigerator. The mixture was then filtered several times through fine-meshed gauze. The filtrate consisted of a reddish-brown syrupy fluid of a rather disagreeable odour. After filtering there were thirty-eight drachms of the extract, so that one drachm corresponded to a capsule. The patient began with half a drachm of the extract three times a day.

The patient's blood-count when he began the treatment was—red corpuscles, 4,564,000; leucocytes, 6,600; hæmoglobin, eighty-five per cent.

The note on May 24, eight days after beginning the use of the extract, was:—The patient looks brighter and says he feels better. The pulse, which had ranged from 120 to 140, is now 100. He has gained three pounds in weight.

On June 6 the amount of the extract was increased so that he took the equivalent of three glands daily.

A note on June 19 is as follows:—Temperature has been quite normal for more than a month. The pulse, which had ranged between 120 to 140 to the date of beginning the extract, has gradually fallen until during the last week the range was between 84 and 104. The amount of sputa has diminished to about one ounce in the day. The patient says he feels much better; his appetite is good, and he looks a great deal brighter. The condition of the lung has improved.

The treatment was continued throughout July and August, and in spite of the hot weather he improved progressively. The gain in weight was remarkable. In July his weight increased from one hundred and ten and a half to one hundred and fifteen pounds. In August, during the very hot weather, he lost again slightly in weight.

He left the hospital on September 10. The change in his condition had been very remarkable. When admitted he could scarcely walk to the bed, and was profoundly asthenic and emaciated. The general appearance had improved wonderfully; he was bright and active, and said he felt vigorous. His weight on discharge was one hundred and eighteen pounds, a gain of nineteen pounds. The pigmentation was unaltered.

Since his discharge he has been at work, and has reported at the hospital occasionally. He felt so well that throughout the latter part of November and December he remained without any of the suprarenal extract, and he lost three pounds in weight in that time. His condition to-day (January 15, 1896) is as follows:—

The colour is good. To me his face looks a little less pigmented, but Dr. Thayer, who had the patient in charge during the summer, while he was in the ward, does not think that there is any material change in the face, but thinks the discoloration is less intense on the trunk. It is still of a very advanced grade, such as is seen only in the most typical cases of the disease. The small patches of pigmentation on the palate have disappeared. The local condition in the lung has cleared, and there are now only a few râles to be heard

occasionally on coughing. The friction is still audible just outside the right nipple. The change in the patient's general vigour is remarkable. He walks briskly, is active, energetic, in very good spirits, and says that he is as well as he ever was in his life.

(*To be continued.*)

NAPOLEON'S EPILEPSY.

In the issue of the *Journal of the American Medical Association* for April 16th, there is an interesting paper, a continuation of a previous article, upon Napoleon's diseases, discussing the evidence for and against the prevalent belief that the great man suffered from epileptic attacks. The author is Dr. Edmund Andrews, of Chicago. He concludes "that the witnesses denying the epilepsy are more credible than those asserting it, but the Emperor had an ungovernable temper, and a very excitable nervous system, which in some cases carried him into semi-hysterical manifestations, but not into true classical epilepsy." He does not believe Talleyrand or the often cited Parisian actress; and he relies upon the negative evidence of the six medical men who published their observations on their illustrious patient's diseases, none of whom says a word about epilepsy. Constant, the Emperor's valet, positively asserts that his master was never subject to epileptic attacks. Bourrienne, who would naturally be a hostile witness, states that he never observed any symptom of epilepsy.

CANCER IN THE UNITED STATES.

The *American Practitioner and News* states that there are fourteen thousand deaths from cancer in the United States annually, two-thirds of these (9,333) are in women; in 25 per cent. of all cases in the female the lesion is in the breast, in about 25 per cent. in the uterus, and in 50 per cent. in other parts of the body combined.

ACROMEGALY.

M. Marinesco has reported three cases to the *Académie de Médecine*, in which he treated acromegaly with tablets of pituitary body, which is, he says, "*constamment*" hypertrophied and altered in this disease. There was no diminution of the parts affected, but the headache and neuralgic pains in the limbs were diminished or disappeared, movements became slightly freer, and the urine was increased.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

INTRODUCTORY ADDRESSES.

Surgical Cleanliness and Surgical Handicraft. An Address introductory to the Session, delivered at the Meath Hospital, October 5th, 1896. By R. Glasgow Patteson, M.B., Univ. Dubl.; F.R.C.S.I.; Surgeon to the Hospital.

It is my pleasing duty to-day, in accordance with time-honoured custom, to address to you, on behalf of my colleagues and myself, some introductory words of welcome at this the formal inauguration of our winter's work; of welcome and of earnest advice to those of you who stand upon the threshold of your studies to-day; of welcome and of "God-speed" to those of you whose studies are almost completed, and who will soon emerge from these walls faring forth with hopes breast-high into the battle of life.

It is our hope that your hopes will not be falsified; and that in pursuing your studies here, besides the knowledge you have gained, you have acquired those habits of painful and accurate observation without which success is impossible. It has been the endeavour of your teachers to inspire you also with that love of truth and of earnest enquiry for truth's sake, without which your observation will prove but a wrecker's beacon to lure you to destruction. Those of you who are leaving us have now become joint heritors of an honourable past; and it remains with you to well and faithfully uphold, without blot or tarnish, the high and glorious traditions which have been handed down to you from the great teachers of the past. No grander motto could you carry with you than that of the Hospital within whose walls you are gathered to-day: "Quæ regio in terris nostri non plena laboris?"—and yours is the proud privilege to carry its fame and honour into the most distant lands. Looking round the names that are emblazoned in this Theatre, one might, without straining, translate the motto—

"Where in the whole wide world is a Meath man not to be found?"

I know that, in common with all students, including myself, you vote introductory addresses "a bore." I shall not therefore trouble you with a scholastic disquisition, or with schemes of Utopian education which have but the twelve hours' existence of the daily press; but shall say a few words to you on two subjects of paramount importance in your future life and work—two subjects intimately bound up with success in that branch of medicine which it is my duty and privilege to teach—Surgical Cleanliness and Surgical Handicraft.

It is an old saying, almost Scriptural in its authority, and indeed often quoted as such, that "Cleanliness is next to Godliness." Surgically it is much more important. David seems to have had a much clearer foresight into the necessities of modern practice when he recounted the rewards in store for the man "that hath clean hands and a pure heart." There is no need to quote the remainder of the verse; none of you would ever be guilty of "lifting up his soul unto vanity." Yet remember there is a vast difference between vanity and vain-glory; and the true surgeon must ever feel some legitimate pride in the results of conscientious and successful work. But that is a very different thing from talking of it all round the town, which is the essence of the vain-glory thus condemned. Further, above all things, bear this constantly in mind: "Be not envious one of another;" rather glory in every success, inasmuch as it may be a stepping-stone that will help each one of us upward in the path of progress. Emulation is the ladder by which we climb; but petty jealousies are detrimental to our work; and we cannot hope for success if our object in attaining it rests on so low a moral foundation. We have not all equal gifts, and our constant aim must be—not our own vain-glory, but the attainment of the best possible results for those who entrust their lives and welfare to our keeping.

It is in this aim that *cleanliness* plays so important a part. We know that nowadays our practice is based on sound principles. If care and cleanliness be exercised, no region of the body can be violated by the surgeon's knife; no limit can be placed to the possibilities of eradicating or ameliorating disease. The prevention of death is the aim of our science; and it is the glory of modern surgery that it has advanced in this direction beyond the dreams of even the most sanguine prophets of a past generation. We know that no wound made deliberately in healthy tissues ought to suppurate. If it does so, the defect lies in the surgeon's hands—literally and not figuratively; and at his door

must be laid the graver charge of surgical disaster. "Godliness is *next* to cleanliness"—in other words, the most important factor in Surgical success, when dealing with the life or limb of your patients, is—Cleanliness. Syme long ago expressed a grave truth in forcible language when he observed that "a probe in the hands of a careless surgeon was as dangerous as a loaded pistol in the paw of a monkey;" and we might say conversely that the paw of a monkey would be a source of less danger in a wound than the dirty hands and instruments we unfortunately still sometimes see employed. The surgeon who neglects knowingly the precautions imposed by scientific investigation as regards cleanliness is as blameworthy as the fool who smokes a cigar in a powder-magazine. No sophistry or special pleading can free him from blame if the appalling catastrophe of death is the result of his ignorant carelessness or culpable neglect of essential principles. Therefore, above all things, *let your hands be clean.* It will be part of our effort here to so instil into your minds the principles of wound treatment that fatal results will be, humanly speaking, impossible; and to endeavour that the gospel of surgical cleanliness will become before you leave these walls an ingrained part of your being—an instinct that time can neither impair nor destroy. "Cleanliness *is* Godliness;" and, to put it on no higher basis, for your own sakes remember that, according to Scripture—"Godliness is great gain."

And now a word as to what is meant by surgical cleanliness. Lister established a grand truth when he proved the important part played by germs in the prevention of wound healing and the development of suppuration. Hence the system of antiseptic surgery, whose aim was by medicated sprays and fluids to kill or at least to counteract the influence of those germs which were inimical to primary union—that is, to union without suppuration. That end was attempted by the use of various germicides; and in proportion as these substances proved efficacious, so the results obtained improved until it was thought that finality in wound treatment had been attained. But "finality" is a purely human term. In science, as in life, there is no finality. Daily "down the ringing grooves of change" there come new ideas within the scope of our active life; and progress means the power to assimilate and utilise new ideas.

"For who beholds
New sudden things, nor casts his mental slough?"

Hence it is that to-day we find Listerism, as it was called, almost a thing of the past; the rags that clothed the idea are gone,

but the eternal principle remains. Newer and more scientific methods have superseded those which had their day of brilliancy and ceased to be; and to-day we practise not antiseptic but *aseptic* surgery. Yet we must not forget to give to Lister the crowning glory that is his due. He was the pioneer of modern surgical methods; but above all, and first of all, he was the Apostle of Surgical Cleanliness.

At the very outset it may be asked—In what does aseptic differ from antiseptic surgery? Are they not different terms for the same thing? The distinction ought to be known to every well-trained student; but there are, unfortunately, many surgeons even to whose minds the terms convey little, if any, difference; only their mortality sheet "points the moral and adorns the tale." Put in a nutshell, the difference between "aseptic" and "antiseptic" surgery is this:—Aseptic surgery obviates by its methods the possibility of wound infection; antiseptic surgery does its best to neutralise by chemical or other means the effects of the poison either inherent in the wound itself or introduced into the tissues by the careless and septic operator. The great principle on which aseptic surgery is based is *the annihilation of all germs by sterilisation of instruments and dressings;* and the most potent and the most universally applicable of all the means available for germ destruction is heat in some form or other. We cannot boil our hands or our patient's skin, however; and hence, for the disinfection of these, other, if less assured, methods are employed. For the disinfection of the field of operation the following method, which is a modification of that in use in von Bergmann's clinic in Berlin, is about the best available. The skin is thoroughly cleansed, and, if necessary, shaved the day before the operation, a continuous carbolic dressing being then applied. This remains in place until the patient is under the anæsthetic, when it is removed and the part energetically scrubbed with soap and water, particular attention being given to the creases and folds of the skin. It is then dried with sterilised muslin, washed with ether, and finally scrubbed with 1 in 2,000 solution of corrosive sublimate. As regards the sterilisation of the instruments, it has been found, as the result of experiments, that the most efficacious and most generally practicable method is by boiling them for five or ten minutes. A one per cent. solution of sodium carbonate is used, which not only prevents rusting, but prevents blunting of knives; and in this way, so short is the time necessary, the instruments can be freshly boiled between each

operation, and thus the danger of infection being conveyed from one case to another is reduced to a minimum. After boiling the instruments are placed in trays containing a solution of carbolic acid and sodium carbonate—of each one per cent.—and kept in this during the period of the operation. Next and chief in importance comes the dressing which is to be applied to the wound; and the conditions laid down for its asepticity are threefold:—"1. It must be free from pathogenic germs; 2. It must thoroughly absorb the secretions of the wound; and 3. It must act antiseptically, so as to prevent decomposition of the absorbed secretions." The ideal dressing which meets these requirements is gauze bound together in several layers; but from motives of economy butter-muslin may be substituted without in any way interfering with efficacy. Sterilisation is carried out by means of nascent steam in copper chambers built on Koch's principle, and capable of rendering perfectly innocuous all contained germs in from half to three-quarters of an hour. Several sets of dressings are contained in the receptacles in the steriliser, and are taken from them only as required. In the same way sponges are completely abolished, and pads of muslin sterilised in the same chamber, and then wrung out of some mild antiseptic, such as lysol, are substituted, and destroyed immediately after each operation. The wound being closed, the dry dressing is applied—that is, several layers of the sterilised muslin. No antiseptics are used, for repeated experiments have shown that a dressing which is absolutely dry does more to check the growth of organisms than all the germicides that have been recommended for the purpose. "A proper use of evaporation," says Schimmelbusch, "has the inestimable advantage over dressings impregnated with antiseptics, that while it checks the growth of bacteria it cannot hurt the patient."

There is one other immense advantage which this mode of treatment affords—it is within the reach of everyone. It is more than probable that many of you will be called upon from time to time to operate in cases of emergency without the resources of a hospital theatre at your back, and without the time to procure elaborate antiseptic dressings. "It is then," to quote Schimmelbusch's eloquent words, "that aseptic treatment, in the hands of those who understand it, shows its greatness and celebrates its crowning triumph in the simple and unassuming methods which it affects. Fire, water, and some means of boiling it, being given, the true surgeon, and one who has imbibed the true spirit of asepsis, will be at once at home and will

improvise everything else. Boiling water provides him with sterilised instruments, sterilised thread for ligatures or suturing, and sterilised though wet dressings made from boiled linen compresses squeezed out. In this way it is conceivable that a surgeon miles away from any civilisation should carry out an amputation, the ligature of some great vessel, or an urgent herniotomy, with a result, it may be, not inferior to that attained on the marble floor of a modern operating theatre." That alone is a strong, an overwhelming argument in favour of the system. The results attained also speak in no doubtful manner. Both methods have been tried with the fullest elaboration of detail in the hands of the most brilliant operators, so that the personal equation may be eliminated; and it is proved to demonstration that aseptic methods are not only immeasurably superior in simplicity of detail and of preparation, but that they also give the highest security as to the success of the operation and the life of the patient. And these, after all, are the most urgent and pressing of the needs of surgery, whose aim is the safe removal of disease and the prolongation of human life.

This leads me to say a few brief words on the other and equally important subject—Surgical Handicraft. I am afraid we are somewhat prone from our higher intellectual standpoint to look down upon the mere handicraftsman as a sort of flesh and blood machine trained to perform almost automatically his allotted task. We are apt to forget by what devious ways and hours of unremitting toil that exquisite and almost mechanical precision has been attained. It is the natural outcome of continued muscular effort guided and regulated by the thinking and ever-active mind; and it is precisely that quality of unerring and mechanical exactness which we mean when we speak of surgical handicraft. It is this educated instinct guarded and directed by sound knowledge and unfailing judgment—by the mind that knows no doubt, and the hand that knows no tremor—which goes to the making of the perfect and accomplished surgeon. It would be a lamentable thing if now, when surgery has been placed on a scientific footing, manual technique should be found wanting. As Volkmann has well expressed it—"A short time ago the surgeon, when he had completed a bloody operation according to rule, was like a husbandman who, having sown his field, waits with resignation for what the harvest may bring forth, fully conscious of his own impotence against the elemental powers which may pour down on him rain, hurricane, and hailstorm.

Now he is a craftsman from whom one expects good workmanship."

How is this excellence in workmanship to be attained? It is a matter of wonder that the importance of dissection in this connection has scarcely been recognised. There is something radically wrong in the system of teaching anatomy which makes the large majority of students loathe and shirk the tedium of dissection. Anatomy is not taught as the handmaid of surgery, but as a separate science bristling with technicalities and overloaded with trivial and exasperating details. Hence it is unwillingly learnt and readily forgotten; and the vast majority of the broader facts which are all-important in surgery are engulfed in the wreckage which follows the emancipation of the overburdened memory. For apart from the essential knowledge of muscle, nerve, and artery, gained by dissection, it has an equally high claim to recognition as the one branch of technical training in handicraft which the student obtains. The laborious and apparently useless search for nerve filaments and terminal arteries has, rightly judged, the highest surgical value; it is the education of eye and hand to perfect co-operation in fineness and accuracy of touch. Viewed in this light of a manipulative training for the higher walks of surgery, it becomes, apart from the knowledge which it brings, an educational factor of the highest value. One of the gravest defects of our surgical training is that it involves no special education in one of the most important branches of our art—operative technique. A short course of operative surgery extending over a couple of months, in which the student performs some eight or ten operations, is all that is required before he is launched forth to deal licensed destruction with the dangerous tools he has scarcely learned to handle and certainly not to master. It is in this connection that a course of technical training in wood or metal, or some of the plastic arts, would be of inestimable service. I think it was Mr. Lawson Tait who suggested, when the additional year of study now required was being debated, that part at least of the extra time should be spent in the turner's workshop, or at the carpenter's bench. And there can be no question that the precision of eye and hand thus acquired would prove of incomparable value both to the future surgeon and to his patients—far more valuable than the knowledge of how to spread a plaster or to roll a pill! On this point I cannot do better than quote for you Mr. Treves' striking words:—"Operative surgery," he says, "is a *handicraft*, and the accomplished operator must lay claim

to be considered a skilled handicraftsman. Like other and simpler handicrafts, much depends upon natural aptitude and physical qualification; but still more depends upon culture and patient practice. A well-matured and well-balanced judgment guides the hand of him who shows most skill; he may do well who is bold, but he will do better who has precise knowledge. The surest sense of confidence rests with the operator who knows accurately what he intends to do, and how to do it. The least success follows the hand of the man who retains throughout an operation a speculative spirit, who depends largely upon his imagination for conditions, and upon the fortune of events for results. A shakiness of the hand may be some bar to the success of an operation, but he of the shaky mind is hopeless. In the handling of a sharp instrument in connection with the human body a confusion of the intellect is worse than chorea."

It is with this object in view—the cultivation of precision of hand and eye—that I would urge you all to devote part of your leisure hours to the pursuit of some manual training, such as etching, wood-carving, or metal work. Quite apart from the mental relaxation such employment affords, you will find it of the greatest assistance in your future work; for no branch of medicine affords such scope for the highest development of the mechanical intellect as does surgery. Many games, especially billiards, are an excellent training for quickness and accuracy of eye and hand; but perhaps the fascination of that game and the haunts in which it is generally played, might draw you from more serious pursuits, and not prove altogether conducive to that steadiness of nerve and hand which is the end to be desired! One thing is certain, the time devoted to such technical pursuits will amply repay you in the mental refreshment they afford, and the facility of the finer muscular efforts they call into play. Nor must more athletic recreation be neglected. The sound mind in the sound body is an essential part of your equipment, if you would stand without detriment the prolonged mental and physical strain that operative surgery demands. But given these necessary qualifications, no branch of our art has equal fascination or offers greater rewards. The saving of life and limb; the removal of deadly growths; the repair of Nature's mistakes; and the exploration of the innermost recesses of the human frame—offer opportunities for skill and legitimate triumph that cannot be equalled in any other pursuit. Remember that in your hands will often lie the issues of life and death. Let no half-heartedness in your art, and no half-knowledge, more fatal than ignorance,

ever lead you to forget your glorious privilege or to dull your sense of grave responsibility. To each according to his work shall be the measure of recompense; not in rewards alone, but in the grateful remembrance of suffering relieved and lives prolonged by the merciful intervention of your art.

And now just one word in conclusion. In language quite inadequate to the importance of the subject, and in a necessarily brief space, I have endeavoured to instil into your minds two great surgical principles. Surrounded as you are here by the memories and mighty influences of the past, I would appeal to these masters who are dead and gone, and let their lives and records emphasise my weak words. Their still living works can clothe with flesh and blood these dead bones and breathe into them the breath of life, that they may live. Let their name and fame be a constant inspiration to you in your work, a constant stimulus to earnest study and honest endeavour, knowing that the "infinite capacity for taking pains" was the foundation on which their genius rested; that to you the same opportunities are afforded; and to you in the future may come the same acclamation and reward. Strive with all your might to pick up daily some item of knowledge within these wards where we are all students together trying to unravel some of life's mystery, or to piece together our separate experiences into one comprehensive whole. Without the practical experience you will gain here your theoretical knowledge will prove but a stumbling block; the larger your experience the wider and more comprehensive your vision, bearing always in mind that

> "All experience is an arch where thro'
> Gleams that untravelled world, whose margin fades
> For ever and for ever when we move."

Isolation as a means of preventing the Spread of Infective Fevers.[a]

By M. M'Hugh, M.A., M.B., Univ. Dubl.; Visiting Physician, St. Vincent's Hospital.

In accordance with the mandate of my colleagues, the duty now devolves upon me of delivering the Introductory Lecture at the opening of this the Sixty-third Medical Session of our Hospital. In the preparation of an Address suitable to occasions such as this the subject which, in the first instance, recommends itself to the lecturer is the all-important and apparently inexhaustible theme of medical education. On both the former occasions, however, on which I have had the honour of addressing you from this place my remarks were exclusively devoted to aspects of this question which, at the time, seemed most deserving of attention, and I may now be permitted to deal with a subject which is not only of great interest to medical men, but which also most vitally concerns every member of the community. I allude to the endeavours which have recently been made, and which, it is to be hoped, will in the future be more actively made, to check the spread of infectious diseases by means of their complete isolation and treatment in hospitals specially provided for them.

This is a question in regard to which, it must be confessed, we are sadly behindhand in Dublin, as compared with the principal centres of population on the other side of the channel. It is one which is, however, gradually forcing itself more persistently upon the attention of our citizens, and with regard to which important proposals emanated from the Public Health Committee of the Corporation at a comparatively recent date. These proposals, it is to be regretted, did not meet with that amount of support to which they would seem to have been entitled. They were, on the contrary, made the subject of considerable animadversion by an influential section of the medical profession; and from this, as well as other causes, it may be said that the plan recommended by the Corporation Committee, if not actually still-born, has, at all events, lapsed into a condition of suspended animation. I feel, therefore, that I cannot more profitably avail myself of the opportunity now afforded me than by an inquiry into our position with regard to the existence

[a] Introductory Address delivered at St. Vincent's Hospital, Dublin, on Tuesday, October 6, 1896.

of infectious and so-called preventable diseases amongst us, and by endeavouring to again attract public attention to a matter of such urgent importance.

That the seclusion or isolation of affected persons is a means of limiting the spread of infective fevers, has long been a matter of common knowledge. It followed as a necessary corollary, from the recognition of the fact, that these diseases were contagious; and the principle has not been without its practical applications in measures such as the enforcement of quarantine in dealing with plague, cholera, and other imported diseases. But as a means of stamping out diseases such as scarlatina and diphtheria, which have already obtained a permanent footing amongst us, it has been almost entirely unproductive of good. Men seemed to have come to regard these maladies rather as necessary evils, and the term preventable diseases, so often applied to them, has remained little more than a theoretical expression. It is true that other measures undertaken by the local authorities—such as the provision of a pure water supply, efficient sewerage, and the removal of filth—have a very important effect in diminishing the prevalency of zymotic diseases; but, considering the large sums freely expended upon these measures, it is all the more remarkable that no more direct and organised attack has been made upon the existence of the diseases themselves by putting a stop to the means by which they are kept alive; that is to say, the transmission of contagion from affected persons to those around them.

The power which the infective fevers, as a rule, possess of disseminating themselves through the community, by this transmission of a poison from person to person, is what we call contagiousness. In some cases this process takes place more directly through the air, and in others more indirectly through the contamination of sewers, of drinking water, or even of milk and other articles of diet. But by whatever means it be effected, it is well known that a single case may act as the starting-point of a whole epidemic. I may take as illustrations two well-known diseases, at present very widely diffused through the city. The contagious virus of typhoid fever is contained mainly in the evacuations of the patient; and so virulent are these, that the discharges from a single case of this disease may serve to infect a large area, both as regards sewerage and water supplies, thus leading to many fresh outbreaks. The infective poison of scarlatina, on the other hand, is found to reside chiefly in the scales which peel off the skin during the period of convalescence.

Every patient, therefore, in the stage of recovery from scarlatina is apt to spread the disease broadcast, throwing off the poison in its most virulent form during his convalescence—that is, at a time when he must be most active in distributing it. With a knowledge of these facts, and with a realisation of their full import, who can estimate the enormous gain to the public, both in this and future generations, if diseases like typhoid and scarlatina could be placed and treated under such conditions that the contamination of surrounding media would be impossible. It is evident that if these conditions could be arrived at, the further dissemination of the poison would cease, and the diseases would be gradually stamped out.

In order to compass this end, it is necessary that all cases of infectious diseases, occurring in a given district, should be removed to special institutions, in which they would not only be treated under conditions most favourable to recovery, but in which also care should be taken that all discharges, or emanations from them should either be destroyed or rendered innocuous by disinfection. Institutions of this kind are commonly known as isolation hospitals. In constructing them it is essential to provide one or more separate pavilions or blocks for the reception of each class of disease, and for no other. They require an efficient ambulance service for the removal of patients from their homes, and should be always in readiness to cope with any sudden emergency. The disinfection of infected dwellings, &c., is, of course, necessary as a supplementary procedure, and, above all, is required the loyal co-operation of the medical profession, and of the public in the notification of each case to the proper sanitary authorities.

Amongst the infectious diseases, which we may be said to have constantly with us, scarlatina stands out prominently, not only on account of its severity, but also because it offers, perhaps, the greatest probability of ultimate extirpation by the method of isolation. As it has also made its presence somewhat obtrusively felt during the past few months, a more detailed reference to it may not be out of place. I have already alluded to the manner in which the poison of this disease is distributed by means of the abundant scales shed by convalescent patients. These scales are apt to be disseminated through the air in the form of fine dust, and to cling to articles of clothing, books, furniture, &c.; and so tenacious is the poison that for several years afterwards the disease may be contracted from such infected articles or dwellings. It cannot, therefore, be a matter of sur-

prise that this disease, besides occasionally assuming an epidemic form, should have established itself on a permanent basis amongst us. It has been estimated, and on the very moderate basis of allowing only fourteen days of contagiousness for each case, that London has hitherto maintained a permanent stock of two thousand centres of infection; and it may be affirmed that constant or continuous infection, with more or less numerous foci, is kept alive in every town of over fifty thousand inhabitants. The remedy here called for is sufficiently obvious. The reduction of these centres of infection to a minimum, if not their complete annihilation, should be attempted, and by the means already indicated—namely, the prompt removal to hospital of each case discovered, combined with immediate disinfection of the dwelling, clothes, &c., of the affected patients. When I mention that in its early stages this formidable disease is only slightly contagious, it will appear that there is every possibility that these procedures, if rigidly and invariably applied, would ultimately succeed in eradicating all sources of infection.

But devoutly as such isolation is to be wished in the case of scarlet fever, it is no less imperatively called for as regards such dread diseases as diphtheria, small-pox, typhus, and typhoid. It may be argued that, owing to the large mass of patients to be dealt with, the practical execution of this plan is beset with great difficulties. Granting that this is so, there is no reason why an attempt should not be made to apply it to as large a proportion of the cases, especially of the more serious forms, as possible. We have abundant evidence that determined endeavours in this direction are at present being made in England and Scotland, where in many of the principal cities they have succeeded in isolating from 70 to 90 per cent.—and in some actually all the cases of scarlatina arising within their boundaries.

In coming to the next branch of my subject—an examination of our local arrangements for dealing with infectious fevers—I do so with some hesitation. For, gentlemen, I must describe our hospital system when viewed from the modern standpoint as for the most part in need of radical reform, and, as a whole, utterly inadequate to meet the requirements of the case—a description which, I fear, will not be very acceptable to many of my most esteemed friends in the profession.

Under what conditions, then, is the treatment of fevers carried on amongst us? We find that in addition to the Cork-street and

Hardwicke hospitals, which take rank as special fever hospitals, there are fever departments in no less than six of the general hospitals, and, I understand, in one private hospital. So that in a city of no very considerable dimensions the treatment of infectious diseases is carried on at eight or nine different centres, many of which are situated in the midst of thickly-populated districts.

This multiplicity of infected centres alone carries with it, for obvious reasons, a strong condemnation of the whole system. But let us examine the latter more closely. It is requisite, according to modern ideas, that in every fever hospital separate pavilions should be provided for the isolation of each type of fever. How can this be effected when the fever department in our general hospitals consists simply of the wing of a building which admits all classes of medical and surgical diseases, or, at most, of a small detached block in close connection with it? In these institutions, also, the visiting medical staff is the same for both the general medical wards and the fever wards. The resident medical officers and pupils, and the students attending, pass freely from one section to the other, the nursing administration is common to both, and, in fact, the arrangements fall so short of what modern standards prescribe, one may say without exaggeration that the principle of isolation is practically ignored.

And what is the position of patients suffering from non-infectious diseases, or requiring surgical operations in these hospitals? What is the standpoint of aseptic surgery with regard to the fever department, and what is the attitude of our colleagues of the operation theatre towards it? I think I may make bold to affirm that they will subscribe to this principle, that it is the business of a hospital in which surgical operations are performed to keep fevers, as well as all sources of infection, at the farthest possible distance, and not to attract and invite them, as it were, by the institution of a fever annexe.

The existence of such adjuncts to general hospitals is, in fact, a relic of times which, though not very far distant, must in this respected be regarded as barbarous, when fever cases were admitted freely and indiscriminately into the general wards, and occasionally formed an actual majority of the patients. Such a system, of course, could not last. It has long since been abandoned in the principal cities on the other side of the channel, in which a condition of things such as we have here is almost unknown. In Dr. J. B. Russell's excellent account of the

sanitation of Glasgow and its evolution, we read that, in 1818, 60 per cent. of all the patients admitted to the Royal Infirmary had fever. Later on relief was given by the establishment of small parochial fever hospitals. The first Municipal Fever Hospital was opened in 1865; the treatment of fevers was given up in the parochial hospitals in 1872, and no case of infectious disease has been treated in a general hospital since 1876. In 1881, at length, the municipal authority undertook its full responsibility by resolving, "that all classes of citizens suffering from infectious diseases should be treated in hospital, without any charge being made therefor," thus dissociating the treatment of infectious disease from all social depreciation, whether of charity or pauperisation.

Glasgow stands by no means alone in the advance it has made. In every other city in Great Britain remarkable progress has been made on similar lines, and I think I do not exaggerate when I say that we find ourselves in Dublin fully a generation behind them. Our local municipal authority cannot, therefore, be accused of undue haste in adopting their report of January, 1895, recommending the provision of isolation hospitals for Dublin. This report was, I understand, founded on the recommendation of our eminent Medical Officer of Health, Sir Charles Cameron, who suggested that a representative Board, somewhat similar to the London Metropolitan Asylums Board, should be constituted to act as the Local Sanitary Authority for the County of Dublin. This Board, he proposed, should consist of representatives nominated proportionately by the Corporation of Dublin, the three Unions, the Kingstown and Blackrock Town Commissioners, and the various suburban Townships. It should be empowered to exercise control over hospitals for infectious diseases, to erect and equip new ones, and, in short, to take all necessary steps to apply the principle of isolation in the manner I have indicated.

It would be entirely foreign to my purpose to enter into any detailed account or criticism of Sir Charles Cameron's plan. I have found it difficult to discover any serious objection to the Board he proposed, and cannot but think that its operations, for which there is plenty of field, would be fraught with great advantage to the whole community. In the present position of the question, however, I feel that any suggestion or discussion of details would be out of place and premature.

When this reform was first recommended by the Committee of the Corporation, it met, as I have said, with a strong opposition

from an unexpected though influential quarter. This opposition has been founded by the critics of the scheme on certain objections which have been publicly stated. Will it be believed that, according to them, the establishment of special hospitals for fever would be prejudicial to the interests of medical education? I yield to no hospital physician in Dublin in my desire to see ample opportunities given for the study of clinical medicine; but, gentlemen, can anyone doubt that the interests of the public, as dictated by the precepts of Sanitary Science, come first, and that the interests of medical education come second? In arranging or re-arranging our hospital system, our guiding principle should be to consider the well-being of the community, in the first instance, and when that has been done to provide the fullest measure of clinical facilities for students compatible with it. It will be generally found, however, that the public advantage, and the advancement of clinical study, are far from being antagonistic; and in this instance, also, I maintain that, instead of clashing, they go forward hand in hand.

The licensing bodies already require the attendance of students at fever hospitals, and as far as the student, therefore, is concerned, the only change will be to substitute for the fever department of a general hospital a special fever hospital ten times the size, and with ten times the amount of material for clinical instruction. It will be difficult, I think, to convince any unprejudiced person that this will be to his disadvantage. Will it not rather have precisely the opposite effect? Is not the establishment of special hospitals in other departments a great boon to students? Let us take another branch of medicine—the practice of Midwifery. Is not the existence of special institutions for this department of incalculable value from a clinical and a scienific point of view? I think these questions may be answered in the affirmative, and one may further assert, without fear of contradiction, that the great reputation which our local Midwifery School enjoys, unrivalled as it is in the British Isles, is mainly, if not wholly, due to the fact that we were first in the field in the foundation of special lying-in hospitals.

I may pass over more trivial matters, and come at once to the only objection made to the proposed scheme which, in my opinion, deserves serious attention, that is, the question of expense. On this point I may remark that it is easy to overestimate the expenditure required, and that if the Board were constituted on the lines originally laid down by Sir Charles

Cameron, the public would have, in the representation of all classes of the community upon it, the surest guarantee against extravagance. The question of expense is one which affects every sanitary reform, and might be equally well held to be an objection to main drainage, or the cleansing of the streets. It should also be remembered that, as the primary object of isolation hospitals is to prevent infection from spreading, the cost of maintaining them will be relatively less, and the benefits resulting from them relatively greater, in proportion to the excellence of the provision made for the immediate admission of patients, and the advantage taken of these facilities by the public. The citizens must, in fine, weigh the advantages to be gained, against the monetary sacrifice they are called upon to make, and they cannot fail to come to the conclusion that it is not only wiser, but, in the end, more economical to deal with this question in a broad spirit than to incur all the expense, misery and death, not to speak of the trading losses, caused by the prevalency of epidemic diseases amongst us.

In order to fortify myself in the position which I have taken up on this question, I have lately collected information as to the practice adopted on the other side of the channel in endeavouring to abate these evils. I have received full statements on the subject from nearly thirty medical officers of health, including those of all towns of over 100,000 inhabitants, which, taken together, constitute such a remarkable mass of evidence on this important question, that I can only regret that the limits of time, which I must impose on myself this afternoon, prevent me from dealing with them as fully as I should wish. Suffice it to say, that, with a few trivial exceptions, the treatment of fever in these towns is entirely divorced from the general hospitals, and in nearly all cases the municipal or other local authority has provided isolation hospitals with beds in proportion to the population for the treatment of zymotic diseases.

I may, perhaps, be permitted to make one or two brief quotations from some of the statements sent. Dr. Boobyer, Medical Officer of Health for Nottingham, writes as follows:—

"We have an isolation hospital capable of accommodating some 230 patients, situated in an enclosure of 12½ acres, and some three miles distant from the centre of the town. Over 90 per cent. of our scarlet fever patients were taken to this hospital last year, and kept at the public expense until clear of infection." And further on he states:—"It was predicted before our hospital was opened that it would never be used to a

sufficient extent to justify its erection. It is now voluntarily used by all classes of the community, and pressure is seldom called for to secure the sending in of patients."

Sir Henry Littlejohn, Medical Officer of Health for Edinburgh, has sent me a very full and pertinent communication, from which I take the following extract:—

"No cases of infectious disease are treated in our general hospitals, or in connection with them. Some years ago they were, but as the treatment of infectious cases was recognised as exclusively the duty of the local authority, our general hospitals were relieved of this responsibility, and at the expense of £30,000 the local authority has provided accommodation for infectious diseases. We have a very complete system of notification loyally worked by the medical profession, and the excellence of our hospital arrangements is such that it leads all classes of the community, from the Judges and University Professors down to the very poor, to take advantage of isolation. When a practitioner determines to treat a case at home, we enquire as to the occupation of the inmates of the house, and by letter or otherwise prevent them from going to shops, warehouses or other works, as long as the house is not free from infection. This action in many cases leads to the patient being removed to hospital."

From end to end of the sister island they are engaged in an active crusade against the existence of these diseases. The sources of infection are being diligently sought out and extirpated one by one; and this is done, it must be remembered, as a matter of public policy. The appeal is, in this instance, not to the open-handed charity of our fellow-citizens, but rather to their instinct of self-preservation; and in bringing these somewhat lengthy remarks to a close, I may express the hope that we shall soon witness a renewal of activity, as regards this question, on the part of our representative bodies—an activity which will be directed strictly in the course marked out for it by the canons of sanitary law, which will be consistent with the humanitarian spirit of the age, and which cannot fail to be productive of immeasurable good to the whole community.

NATIONALITY IN CREMATION.

Of the 1,566 bodies that have been cremated at Fresh Pond in N.Y. State more than one-half, that is to say 820, were born in Germany, and only 15 were born in Ireland.—*Med. Rec.*

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—James Little, M.D., F.R.C.P.I.

General Secretary—William Thomson, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—Lombe Atthill, M.D.

Sectional Secretary—Dr. F. W. Kidd.

Friday, April 10, 1895.

The President in the Chair.

Exhibits.

Dr. Alfred Smith showed—(1) A hydrosalpinx of the outer third of the Fallopian tube, which he removed from a young married woman who was sterile. She had complained of constant pain in the left side, with unbearable dyspareunia. There was no history of any inflammatory trouble. The tube was embedded in adhesions. Recovery rapid.

(2) Another example of complete hydrosalpinx, which he removed from a married woman, aged thirty-five. The history was well-marked of inflammatory trouble following the birth of a premature child six years ago. Since that time she had become almost a permanent invalid, and spent her time in various hospitals without benefit; dyspareunia intense. On examination the palpation gave uterus slightly dextro-posed, with a mass which gave the impression of an adherent intestine to the left Fallopian tube, so soft and elastic did it feel. This, on operation, proved to be the distended Fallopian tube embedded in adhesions. Recovery.

(3) A solid myoma of the ovary the size of a goose egg, which he removed from a woman, aged forty-five. Her climacteric was passed, having seen no menstruation for twelve months. She had a fibro-myoma of the uterus, which never gave her any trouble except the inconvenience of getting properly-fitting corsets. For the past year a lump on the left side became very painful. She could not tighten her corset, and had a dread, while walking the streets, of anyone jolting against her, so painful did this lump become. Under ether the tumour was diagnosticated solid ovarian.

The operation proved the diagnosis correct; the large myoma, which was giving no trouble, was not removed. Recovery.

Dr. Glenn asked whether there were any adhesions in either of the two cases of hydrosalpinx. Hydrosalpinx was usually painless.

Dr. Smith replied that there were very extensive peritonitic adhesions in both cases. The pain was probably due to the local peritonitis.

Notes of a Case of Pulmonary Embolism, with some Remarks upon Peripheral Venous Thrombosis. By John H. Glenn, M.D., Ex-Assistant Physician, Rotunda Hospital.

Mrs. J. was delivered of her second child, a large healthy boy, on December 9, 1895. The patient was a tall, exceedingly stout, young woman; the labour was natural and not prolonged. When I arrived the head was born and the perineum required two sutures, which were of silk. She had both before and since her marriage suffered from varicose veins of both legs, and these caused her considerable pain after her first child, and also when carrying the second. Her temperature remained normal, and the perineal wound healed kindly, but on the third day my attention was called to the calf of the left leg, where I found the internal saphenous vein thickened and inflamed, with a distinct area of redness about the size of a florin. The usual treatment was resorted to—namely, elevation of the limb, suitable posture, lotion of lead and opium, covering with cotton wool, and even bandaging.

The case for three weeks displayed some unusual features, as the temperature in the evening remained below 100° F., and the leg displayed none of the usual hard œdema met with in the so-called "white leg." At this time I felt justified in regarding the case as one of simple venous thrombosis, my only anxiety being obstinate constipation with white-furred tongue, the well-known recognised prodromata of phlegmasia alba dolens. With this in mind careful abdominal palpation was practised, but no effusion was to be detected on either side. During the fourth week the vein was to be felt as a distinct hard cord, but the leg, though painful at night and feeling heavy to the patient, was still quite soft. The leg was slightly larger than the right on measurement.

Patient and her friends were warned as to the grave dangers incurred by sudden movements, and she was progressing well, if slowly, up to the 17th of January, 1896, or thirty-nine days after her delivery. On the 18th of January she had some visitors, and feeling so much better probably rather over-exerted herself, for

immediately after, when having her leg dressed, she suddenly became faint and breathless, and I was sent for in a hurry. My friend Dr. Flynn, who was kindly doing duty for me, saw her at 9 30 p.m., and found her lying with anxious aspect, rapid breathing, and tumultuously beating heart. Her brother, who is a senior medical student, had, on auscultating before Dr. Flynn's arrival, distinctly heard a systolic murmur, but this disappeared only, however, to return again with increased volume on her second attack, which took place at 5 a.m. So serious had the case become that Dr. Flynn sent for Dr. Parsons at 6 a.m. Dr. Parsons has very kindly furnished me with the following notes:—"I saw Mrs. J. about six o'clock, she was then rather pale and anxious looking; there was no distinct cyanosis, or marked distension of the jugular veins; her temperature was slightly elevated; pulse about 110; respiration somewhat increased in frequency, but there was at the time of my visit certainly no dyspnœa. So far as an examination of the front and sides of the chest was concerned, I could detect nothing abnormal in her lungs. I did not care to move her, as I thought doing so might be attended with some danger. As regards her heart there was no thrill or friction palpable, nor was there any marked displacement of the apex beat. A rather rough murmur, apparently systolic in time, was audible over the mitral area, but was heard with the greatest intensity in the third left intercostal space, about an inch from the left margin of the sternum, and could be traced downwards and inwards towards the end of the sternum. The murmur was loud, single, and had not any of the characteristics of a pericardial friction sound. I recommended digitalis and diffusible stimulants, so as to keep the blood flowing actively and thereby diminish the tendency of a clot to increase in size."

I myself saw the case at eleven and found her with a full pulse, beating at 140, temperature 101°, respirations 40. I made a careful examination of her chest and found a well-marked systolic murmur, with its point of greatest intensity over the tricuspid area. The heart beats were regular, but afterwards became intermittent. She was slightly cyanosed when I saw her, but not the livid purple considered as a proof of spontaneous coagulation rather than embolism. The air was entering the lungs, but not easily, as her attention was concentrated upon the act. She was in a most highly nervous state, and had quite made up her mind to die. There was no bronchitis or pneumonia. I quite agreed with the diagnosis arrived at that it was a case of pulmonary embolism. I have twice before met with it after cœliotomies during my service in the Rotunda Hospital.

The treatment was spts. amm. arom. and spts. ætheris co., with hypodermic injections of morphia to allay her restlessness, which was extreme. Digitalis was exhibited later, and the morphia was changed first to paraldehyde and then to sulphonal, which proved the most serviceable. The murmur persisted for four days, and gradually diminished, while the temperature rose until, on the 22nd, it was 103·4°. Now occurred the most interesting feature of the case; as the murmur passed away a localised area of pneumonic consolidation appeared at the back of the right lung, corresponding to the middle lobe, while at the same time she began to expectorate rusty-coloured sputum. I submit a chart of this local pneumonia, by which nature expelled this embolus; the amount in the twenty-four hours never exceeded half a spitting-cup. Care was taken to keep her off her back, and the case went on from this time favourably; it is interesting to note that the right leg became affected after this attack, but in merely a slight degree. Dr. Parsons saw her on February 20, 1896, and writes: "Her heart seems perfectly normal, but there is still some dulness over the lower portion of the right lung at the back." This dulness has since cleared up, but I believe the pleura is still thickened.

I have brought the above case before the Obstetrical Section, not only on account of the interest which must necessarily attach to a recovery from pulmonary embolism, but also because I regard it as an example of thrombosis apart from sepsis. As long ago as 1877, Spiegelberg stated "that puerperal thrombosis has been far too much mixed up with those complications, and it is desirable that we should study simple uncomplicated thrombosis." An interesting discussion on this point is published in the last volume of the Obstetrical Society of London Transactions, and the bulk of opinion favoured the non-septicity of peripheral venous thrombosis. In the case here before you I fail to see how it could be included under septic, but should like to hear the opinions of those better qualified to judge.

It must, I think, be allowed to be one of two conditions—either spontaneous coagulation in the right heart, and extending into the pulmonary artery, or an embolus detached from a peripheral thrombus, probably floating out of the femoral vein into the vena cava. I have already mentioned why it is not likely to have been spontaneous coagulation. The great majority of emboli found after death come from the systemic veins, and notably from the internal saphenous and femoral veins. The reason of coagula forming most commonly in these situations being—first, that the action of the vis a tergo and thoracic aspiration is scarcely at all felt; and,

second, the lying-in state is exceedingly favourable to this condition on account of the state of the blood, the dilated pelvic and femoral veins, and the diminution of the heart's action; while, if we consider these same causes as provocative of varices before delivery, we must add the general rise of abdominal pressure consequent upon the increased dimensions of the uterus. In this puerperal complication it is satisfactory to note that many more recoveries are reported than perhaps is generally recognised, and it is a great satisfaction to me to be able to add yet another.

Dr Parsons said the characters of the friction sound were endocardial and not pericardial. Thrombosis might have occurred in the right auricular appendix, and have produced the murmur. He thought that more probably it was due to an embolus. It was very remarkable that in a month afterwards the heart sounds were perfectly normal. He saw a *post-mortem* on a woman in Vienna who had got up three days after confinement. A large embolus was found completely obstructing the pulmonary vessels.

Dr. Tweedy said pulmonary embolus was a very rare affection. He did not think it would be commoner if women got up six hours after confinement. The orthodox treatment was to give plenty of stimulants, as the patients generally died of shock. In this case, as the woman was not suffering in any way, large doses of ammonia and digitalis might have done harm by washing away the clot into some more dangerous situation.

Dr. Doyle said that some years ago he had brought a patient to the Obstetrical Society who had several attacks of severe dyspnœa after confinement. She was treated with carbonate of ammonia and ether, from which she derived the greatest benefit, and finally made a good recovery.

Dr. Kidd had met with only one case of pulmonary embolism. It occurred a few hours after delivery. The patient died in spite of treatment by stimulants. Some time ago five cases of pneumonia occurred in the Coombe Hospital; three of them died, but no trace of septic trouble or of embolism could be found as the cause of the pneumonia. He thought one of the cases was saved by oxygen inhalation.

Dr. Winifred Dickson thought that inhalations of oxygen would be of more use in combating shock and dyspnœa than stimulants. It could be given more quickly. It was very good for relieving dyspnœa in pneumonia and heart cases, and it might be of use in embolus.

Dr. Smith said the chief point of interest was whether this phlebitis was septic or not. He classified thrombosis under two

forms. First, passive thrombosis; it frequently occurred in persons of feeble circulation; the temperature was rather subnormal. Second, where a local inflammatory trouble was found, there was a rise of temperature, and it was generally associated with some form of septic organism. Dr. Glenn's case was not one of passive thrombosis. The septic organisms, however, were not streptococci or staphylococci, for then the woman would never have got well.

Dr. Glenn, replying, said that only 10 minim doses of digitalis were given twice a day. He gave diffusible stimulants, especially ammonia, because ammonia was supposed to have some efficacy in preventing coagulation of blood, and in helping the resolution of blood clots already formed. Oxygen would act quickly, but would not assist the resolution of blood clots. The temperature in this case never rose above 100°F.

Dr. Jellett read "*Notes on a Recent Method of Preparing Catgut Sutures, with Apparatus.*"

The method described is a modification of Dr. Fowler's method. He stores lengths of catgut in glass tubes containing alcohol, and then boils them in water or places them in a steriliser. This is the best way of preparing gut, but cannot be carried out by a surgeon. Catgut is difficult to prepare owing to its nature, and must be absolutely aseptic in consequence of its being absorbed. Gut can be rendered aseptic by means of antiseptics, or by heat. The former are difficult to manage, as the bacteria lie encased in fat, which is with difficulty penetrated by any antiseptic. Heat is more certain, but is difficult to apply without spoiling the gut. Gut can be boiled in alcohol, which boils at 173° F. This heat is not sufficient, it must be superheated. This is Dr. Fowler's method. The modification consists in using a cylindrical brass box with a screw-top instead of a glass tube. The gut is immersed in alcohol in the box and boiled for 15 minutes. It is essential, in order that the gut may be strong, that it should be absolutely dehydrated and rolled very loosely on the plates on which it is kept.

The method recommended is as follows:—(1) Roll the gut *very loosely* on glass plates. (2) Place it in a jar in absolute alcohol, and let it lie there for three or four days. (3) Place the plates in the brass steriliser just covered with alcohol. (4) Place the steriliser in a saucepan containing cold water, and keep it in it for fifteen minutes after the water begins to boil. (5) Remove the gut and place it in a mixture of glycerine and alcohol, which should be changed every ten days.

The steriliser can also be used to render aseptic any substance which cannot be exposed to boiling water as tests ; and also to re-sterilise the glycerine and alcohol in which the gut is stored.

Dr. Tweedy said he had himself been working by different methods at sterilising catgut. Catgut could be boiled without rotting, provided it was dehydrated. It was very difficult to dehydrate catgut in alcohol. It could be easily dehydrated by keeping it in sand, at a temperature of 80°, for three days. He had had a tin steriliser made; the top of it screwed on and had a cock in it. A little alcohol was first put in, and then the dehydrated catgut; the top was screwed on, and it was boiled in boiling water. A coil was attached to the cock, which was turned on, and the alcohol evaporated being caught in the coil, and the catgut was left dry. He wished to know whether Dr. Jellett put anything between the brass steriliser and the saucepan, for, if not, the interior of the steriliser would be heated to a greater extent than the water in the saucepan. Another method which was good was to take a saucepan and put $\frac{1}{2}$-inch of sand in the bottom of it, then some waxed paper over it, and then dehydrated catgut. This was covered over with sand and put on the fire, a thermometer being passed down to the waxed paper. The sand could be raised to a temperature of 380° for 3 hours; it heated pretty evenly, and the catgut was perfectly strong when taken out. Another method was to boil the cat-gut in cumol—an oily substance which boils at 38°. It was very expensive.

Dr. Glenn congratulated Dr. Jellett on the simplicity of the apparatus. He wished to know what was the advantage of it over sterilising in envelopes by dry heat. He found Fowler's tubes very good. Had the catgut been examined bacteriologically? Would chloride of calcium dehydrate catgut ?

Dr. Smith used catgut pretty extensively and never had any trouble with it. He dehydrated it with alcohol, then boiled it in alcohol, and left it in oil of juniper. Chloride of calcium had been used for dehydrating catgut.

Dr. Jellett said he kept the steriliser separated from the bottom of the saucepan, as he had once found the catgut scorched. A dry steriliser had always to be watched. Dr. O'Sullivan had examined the catgut a couple of times and had been unable to grow any cultivations from it. Dr. Smith boiled the catgut in alcohol; but in an open vessel there was not sufficient heat. Kylol and cumol had not the same germicidal power as water or other substance at 212° which penetrated more.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

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Vital Statistics

For four Weeks ending Saturday, October 3, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Sept. 12.	Sept. 19.	Sept. 26.	Oct. 3.		Sept. 12	Sept. 19.	Sept 26.	Oct. 3.
Armagh -	28·0	14·0	7·0	21·0	Limerick -	15·4	16·8	14·0	26·7
Belfast -	22·9	18·4	24·3	21·2	Lisburn -	17·0	17·0	4·3	17·0
Cork -	19·4	13·8	18·7	21·5	Londonderry	25·1	15·7	9·4	14·1
Drogheda -	22·0	13·2	8·8	30·7	Lurgan -	27·4	27·4	13·7	13·7
Dublin -	21·5	21·5	15·4	19·5	Newry -	20·1	28·2	12·1	8·1
Dundalk -	16·8	4·2	20·9	16·8	Sligo -	20·3	10·2	15·2	25·4
Galway -	18·9	26·4	15·1	11·3	Waterford -	17·5	15·0	30·0	22·5
Kilkenny -	9·4	28·3	4·7	9·4	Wexford -	0·0	40·6	13·5	18·1

In the week ending Saturday, September 12, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 14·8), was equal to an average annual death-rate of 15·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 15·9 per 1,000. In Glasgow the rate was 17·4. In Edinburgh it was 13·0.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 21·1 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·1 per 1,000, the rates

varying from 0·0 in nine of the districts to 7·9 in Londonderry—the 16 deaths from all causes registered in that district comprising 2 from scarlatina and 3 from diarrhœa. Among the 122 deaths from all causes registered in Belfast are 2 from measles, 5 from scarlatina, 3 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 8 from diarrhœa. The 28 deaths in Cork comprise 1 from whooping-cough and 1 from diarrhœa, and the 7 deaths in Waterford comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 220—116 boys and 104 girls; and the registered deaths to 146—72 males and 74 females.

The deaths, which are 18 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·8 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 21·5 per 1,000. During the first thirty-seven weeks of the current year the death-rate averaged 24·2, and was 3·3 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 24, being 1 under the number for the preceding week, and 8 below the average for the corresponding week of the last ten years. The 24 deaths comprise 2 from scarlet fever (scarlatina), 6 from whooping-cough, 5 from enteric fever, and 9 from diarrhœa. The deaths from diarrhœa are equal to the number in the previous week, but 9 below the average for the corresponding week of the ten years 1886–1895. They include the deaths of 8 children under 5 years of age, of whom 6 were infants under one year old.

Twelve cases of measles were admitted to Cork-street Hospital. These were the only cases of the disease received into any Dublin Hospital since the week ended August 1.

The number of cases of enteric fever admitted to hospital, which had fallen from 17 in the week ended August 29, to 9 in the following week, rose to 16. Nine enteric fever patients were discharged, 4 died, and 105 remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

Twenty-nine cases of scarlatina were admitted to hospital, as against 22 in the preceding week. Thirty-six patients were discharged, 1 died, and 204 remained under treatment on Saturday, being 8 below the number in hospital on that day week.

No case of typhus remained under treatment in hospital at the close of the week.

There is an increase of 6 in the number of deaths from diseases

of the respiratory system registered as compared with the preceding week, but a decrease of 3 as compared with the average for the thirty-seventh week of the last ten years. The 15 deaths registered comprise 10 from bronchitis and 3 from pneumonia.

In the week ending Saturday, September 19, the mortality in thirty-three large English towns, including London (in which the rate was 14·6), was equal to an average annual death-rate of 15·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·3 per 1,000. In Glasgow the rate was 17·3, and in Edinburgh it was 16·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 19·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in eight of the districts to 4·6 in Lurgan—the 6 deaths from all causes registered in that district comprising 1 from diarrhœa. Among the 98 deaths from all causes registered in Belfast are 4 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 5 from enteric fever, and 4 from diarrhœa. The 20 deaths in Cork comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 215—107 boys and 108 girls: and the registered deaths to 148—76 males and 72 females.

The deaths, which are 11 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·1 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 21·5 per 1,000. During the first thirty-eight weeks of the current year the death-rate averaged 24·2, and was 3·2 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 20, being 4 under the number for the preceding week, and 12 below the average for the corresponding week of the last ten years. The 20 deaths comprise 2 from scarlet fever, 1 from influenza, 3 from whooping-cough, 2 from enteric fever, 3 from simple cholera and choleraic diarrhœa, 7—those of 3 infants under one year old and of 4 children aged one year and under 5 years—from diarrhœa. The deaths from diarrhœa show a decline of 2 as compared with the number for the preceding week, and are 10 below the average for the thirty-eighth week of the last ten years.

The number of cases of measles admitted to hospital was 5, being 7 under the admissions in the preceding week. One patient was discharged, and 16 remained under treatment on Saturday, being 4 over the number in hospital on that day week.

Seventeen cases of enteric fever were admitted to hospital, against 16 in the preceding week. Thirteen enteric fever patients were discharged, and 109 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

The cases of scarlatina admitted to hospital amounted to 45, against 29 in the preceding week, and 22 in the week ended September 5. Thirty-one patients were discharged, 2 died, and 216 remained under treatment on Saturday, being 12 over the number in hospital at the close of the preceding week.

Eighteen deaths from diseases of the respiratory system were registered, being equal to the average for the thirty-eighth week of the last ten years, and 3 over the number for the previous week. They comprise 12 from bronchitis and 4 from pneumonia.

In the week ending Saturday, September 26, the mortality in thirty-three large English towns, including London (in which the rate was 14·9), was equal to an average annual death-rate of 15·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 14·4 per 1,000. In Glasgow the rate was 15·9, and in Edinburgh it was 13·0.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 18·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in eleven of the districts to 5·0 in Waterford—the 12 deaths from all causes registered in that district comprising 1 from typhus and 1 from whooping-cough. Among the 129 deaths from all causes registered in Belfast are 2 from measles, 5 from scarlatina, 4 from whooping-cough, 3 from enteric fever, and 6 from diarrhœa.

In the Dublin Registration District the registered births amounted to 164—85 boys and 79 girls; and the registered deaths to 104—52 males and 52 females.

The deaths, which are 63 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 15·5 in every 1,000 of the population. Omitting the death of one person admitted to hospital from without the district, the rate was 15·4 per 1,000. During the first thirty-nine weeks

of the current year the death-rate averaged 24·0, and was 3·3 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 19, being 10 below the average for the corresponding week of the last ten years, and 1 under the number for the previous week. The 19 deaths consist of 4 from scarlet fever (scarlatina), 1 from influenza, 2 from whooping-cough, 3 from enteric fever, 6 from diarrhœa, 2 from dysentery, and 1 from erysipelas. The deaths (8) from diarrhœa and dysentery combined are 9 below the average number of deaths from these diseases in the corresponding week of the last ten years.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 29 in the week ended September 12 to 45 in the following week, fell to 33. Forty-four scarlatina patients were discharged, 2 died, and 203 remained under treatment on Saturday, being 13 under the number in hospital at the close of the preceding week.

Seventeen cases of enteric fever were admitted to hospital; 16 patients were discharged, 2 died, and 108 remained under treatment on Saturday last, being 1 under the number in hospital on that day week.

Eight cases of measles were admitted to hospital, being 3 over the admissions in the preceding week, but 4 under the number in the week ended September 12. Ten patients were discharged, and 14 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

Only 11 deaths from diseases of the respiratory system were registered, being 7 under the number for the preceding week, and 6 below the average for the thirty-ninth week of the ten years 1886–1895. They comprise 6 from bronchitis, 2 from pneumonia, and 1 from pleurisy.

In the week ending Saturday, October 3, the mortality in thirty-three large English towns, including London (in which the rate was 15·0), was equal to an average annual death-rate of 15·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·2 per 1,000. In Glasgow the rate was 18·1, and in Edinburgh it was 14·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 20·0 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the

rates varying from 0·0 in eight of the districts to 8·1 in Newry—the 2 deaths from all causes registered in that district consisting of 1 from whooping-cough, and 1 from enteric fever. Among the 113 deaths from all causes registered in Belfast are 5 from measles, 4 from scarlatina, 2 from enteric fever, and 6 from diarrhœa.

In the Dublin Registration District the registered births amounted to 211—107 boys and 104 girls: and the registered deaths to 135—68 males and 67 females.

The deaths, which are 18 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 20·1 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 19·5 per 1,000. During the first forty weeks of the current year the death-rate averaged 23·9, and was 3·3 under the mean rate in the corresponding period of the ten years 1886–1895.

Only 16 deaths from zymotic diseases were registered, being 11 below the average for the corresponding week of the last ten years, and 3 under the number for the previous week. They comprise 3 from scarlet fever (scarlatina), 1 from whooping-cough, 1 from diphtheria, 6 from enteric fever, and 3 from diarrhœa.

The number of cases of scarlatina admitted to hospital was 26, being 7 under the admissions in the preceding week, and 19 under the number in that ended September 19. Twenty-nine scarlatina patients were discharged, and 200 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

Twenty cases of enteric fever were admitted to hospital, against 17 in each of the two weeks preceding: 21 patients were discharged, 3 died, and 104 remained under treatment on Saturday, being 4 under the number in hospital on that day week.

The number of cases of measles admitted to hospital was 5, being 3 under the admissions in the preceding week, and equal to the number in that ended September 19. Four patients were discharged, and 15 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

Twenty-four deaths from diseases of the respiratory system were registered, being 13 over the low number for the preceding week, and 4 over the average for the fortieth week of the last ten years. They comprise 15 from bronchitis and 7 from pneumonia.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of September, 1896.

Mean Height of Barometer,	29·707 inches.
Maximal Height of Barometer (on 30th, at 9 p.m.),	30·449 „
Minimal Height of Barometer (on 25th, at 5 30 a.m.),	28·680 „
Mean Dry-bulb Temperature,	54·4°.
Mean Wet-bulb Temperature,	52·5°.
Mean Dew-point Temperature,	50·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·370 inch.
Mean Humidity,	87·0 per cent.
Highest Temperature in Shade (on 17th),	68·4°.
Lowest Temperature in Shade (on 21st),	41·1°.
Lowest Temperature on Grass (Radiation) (on 21st),	36·8°.
Mean Amount of Cloud,	58·3 per cent.
Rainfall (on 23 days),	5·073 inches.
Greatest Daily Rainfall (on 4th),	·949 inch.
General Directions of Wind,	W., N.W. S.E.

Remarks.

Unlike the Septembers of 1893, 1894, and 1895—all of which were fine and summer-like—the month under review was throughout unsettled, stormy, and excessively wet. The rainfall was a record one—it amounted to 5·073 inches in Dublin, 5·79 inches at Carrickmines, Co. Dublin, and 7·585 inches at Greystones, Co. Wicklow. At the Ordnance Survey Office, Phœnix Park, it was 4·820 inches. The atmosphere was in a state of most unsettled equilibrium, and several very deep barometrical depressions passed across Western Europe. In Dublin, by a singular coincidence, the mean maximal and minimal temperatures, and the mean temperature derived from the daily extremes were all practically equal to the averages for September. The mean atmospheric pressure was, however, largely in defect.

In Dublin the arithmetical mean temperature (55·8°) was exactly the average (55·8°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 54·4°. In the thirty-one years ending with 1895, September was coldest in 1886 and in 1882 (M. T.=53·0°), and warmest in 1865 (M.T. = 61·4°). The three warmest Septembers experienced in Dublin of late years have been—1865 (M. T. = 61·4°), 1890 (M. T. = 59·6°), and 1895 (M. T. = 59·1).

The mean height of the barometer was 29·707 inches, or 0·203 inch below the corrected average value for September—namely, 29·910 inches. The mercury rose to 30·449 inches at 9 p.m. of the 30th, and fell to 28·680 inches at 5 30 a.m. of the 25th. The observed range of atmospheric pressure was, therefore, 1·769 inches—that is, a little more than an inch and three-quarters.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 54·4°, or 3·1° below the value for August, 1896. Using the formula, *Mean Temp.* = *Min.* + (*max.* — *min.* × ·476), the mean temperature was 55·5°, or exactly equal to the average mean temperature for September, calculated in the same way, in the twenty-five years, 1865–89, inclusive (55·5°). The arithmetical mean of the maximal and minimal readings was 55·8°, compared with a twenty-five years' average of 55·8°. On the 17th the thermometer in the screen rose to 68·4°—wind, S.W.; on the 21st the temperature fell to 41·1°—wind, S.E. The minimum on the grass was 36·8°, also on the 21st.

The rainfall was 5·073 inches, distributed over 23 days. This was a record measurement, being more than double the average. The average rainfall for September in the twenty-five years, 1865–89, inclusive, was 2·176 inches, and the average number of rainy days was 14·7. In 1871 the rainfall was very large—4·048 inches on, however, only 13 days. On the other hand, in 1865, only ·056 inch was measured on but 3 days. In 1893, ·729 inch fell on 14 days; in 1894, only ·442 inch on 8 days; and in 1895, only ·543 inch on 7 days.

High winds were noted on fifteen days, and attained the force of a gale on seven occasions in Dublin—the 14th, 16th, 17th, 22nd, 23rd, 25th, and 27th. Lightning was seen on the 9th, 10th, 12th, and 27th. The atmosphere was foggy on the 4th and 9th. Hail fell on the 19th. A lunar halo was seen on the 16th, a solar halo on the 18th.

During the period ended Saturday, the 5th, the weather was changeable and unsettled generally, but a very fine spell was enjoyed in and near Dublin up to the evening of Thursday the 3rd, when heavy rain set in. At the beginning an area of relatively high pressure lay over the West of Ireland, while a depression moved across England, enlarging its borders and becoming both deeper and more complex. The result was that thunder and lightning and heavy rains occurred in many parts of Great Britain. On the morning of Thursday the 3rd, a new depression was found off the extreme S.W. of Ireland, so that the weather broke in this

country also, and at night thunderstorms were reported from Roche's Point and Valentia Island, while ·430 inch of rain fell in Dublin and ·760 inch at Greystones. After a dull damp day the downpour was renewed on Friday evening and continued through the night—the measurement in Dublin on Saturday morning being ·949 inch. After 9 a.m. of Saturday the weather improved, becoming in the end bright and bracing. In Dublin the barometer ranged from 30·061 inches at 9 a.m. of Tuesday (wind, N.N.W.), to 29·766 inches at 9 p.m. of Friday (wind, N.E.). On Wednesday the screened thermometers fell to 48·7°, on Thursday they rose to 65·4°. The rainfall was 1·382 inches on two days, ·949 inch being registered on Friday. The prevailing winds were N.W. and N.E.

Very unsettled, thundery, and rainy weather prevailed during the greater part of the week ended Saturday, the 12th, over the British Islands, France, and Germany. At the beginning, however, a spell of fine weather was enjoyed, especially in Ireland, where moderate N.E. winds blew on Sunday, in connection with a high pressure system which stretched south-westwards to this country from the extreme N.W. of Norway. Already on Monday morning a disturbing element showed itself in the form of a large area of relatively low pressure, which was at that time moving northwards from the Peninsula. This system steadily advanced over the Bay of Biscay, grew deeper, and threw out various secondary areas of low pressure, in connection with which storms of thunder, lightning, rain and hail developed in many French and English districts. By Wednesday morning the centre of low pressure had reached Cornwall, whence it stretched across to Kerry. On Thursday morning it was passing out north-westwards over the Atlantic from Mayo and Donegal, but a new depression had reached the mouth of the English Channel travelling towards E.N.E. This caused a renewal of the electrical disturbances in France and England. At 3 p.m. of Thursday a violent and very destructive whirlwind passed over Paris, preceded by torrents of rain. In the course of the nights of both Thursday and Friday, further depressions crossed Ireland from the southward, accompanied by squally S.E. or S. winds and heavy rains. Sunny, warm intervals were enjoyed in the daytime—the changes from fair to foul weather and back again being unusually sudden and frequent. In Dublin the barometer ranged between 30·076 inches at 9 p.m. of Sunday (wind, N.E.), and 29·300 inches at 11·45 p.m. of Saturday (wind, S.E.). The mean atmospheric pressure was 29·719 inches. The corrected mean temperature was 59·1°. The mean dry bulb

reading at 9 a.m. and 9 p.m. was 57·9°. On Sunday the screened thermometers fell to 52·9°, on Saturday they rose to 67·7°. Rain fell on five days to the total amount of 1·379 inches, ·239 inch being measured on Friday and ·850 inch on Saturday. The prevalent wind was S.E. Lightning was seen on the evenings of Wednesday, Thursday, and Saturday.

The atmosphere over North-Western Europe was in a very perturbed state all through the week ended Saturday, the 19th. A series of large and deep depressions traversed the Atlantic and Norwegian Sea in a north-easterly direction, while secondary low pressure systems spread eastwards across the British Islands towards Central Europe. Connected with these barometric disturbances, copious rains fell from time to time in nearly all districts, and moderate to fresh or even strong gales blew from S., S.W., or N.W. at exposed points on the British and Irish coasts. On Tuesday and again on Friday morning the barometer sank below 29 inches—on the former occasion to 28·99 inches at Christiansund in Norway, on the latter to the same point at Sumburgh Head in the Shetlands. In Dublin the week was ushered in by strong southerly winds and torrents of rain early on Sunday morning. The day proved fine. Gales occurred on Monday, Wednesday, and Thursday—the last being the most severe. It was followed by a brisk decrease of temperature, so that on Friday the thermometer failed to touch 60° in the shade, whereas on Thursday it had risen to 68·4° in front of the storm. Thunder and lightning occurred in the S.E. and E. of England on Sunday, and at some Scotch stations on Tuesday and Wednesday. A lunar halo appeared on Wednesday evening, and a solar halo on Friday forenoon. Heavy hail and rain showers fell on Saturday afternoon. In Dublin the mean atmospheric pressure was 29·608 inches, the barometer ranging between 29·114 inches at 1 30 p.m. of Monday (wind, S.W.) and 29·923 inches at 9 p.m. of Wednesday (wind, W.S.W.). The corrected mean temperature was 56·6°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 54·2°. On Thursday the screened thermometers rose to 68·4°, on both Friday and Saturday they fell to 47·7°. The rainfall was ·415 inch on six days, ·241 inch being measured on Monday. The prevalent winds were S.W., W., and W.N.W. Hail fell on Saturday.

As to the week ended Saturday, the 26th, yet another spell of storm and rain has to be recorded. In this period, besides other second-rate disturbances, two storm-centres of great intensity sped rapidly across the British Isles in an easterly direction—the first on Monday night, the second on Thursday night. Both systems

caused downpours of rain and violent gales from different quarters all over Western Europe, and even when the main disturbances had passed away the weather was kept in an unsettled, showery, squally condition by the arrival of secondary shallower depressions from the Atlantic. Sunday broke fair and cold, with N.W. winds. Heavy showers fell as the day advanced. A very cold night ensued, the thermometer falling in the shade to 41° in Dublin, 40° at Donaghadee, 39° at Parsonstown, 38° in London, 37° at Shields, York, and Cambridge, and 34° at Loughborough. On Monday a general reduction of atmospheric pressure took place in advance of the deep depressions of Tuesday and Friday, and the weather became broken and rainy. At 2 p.m. of Tuesday the barometer was down to 28·78 inches in Dublin. In the evening the wind rose to a fresh or even a whole gale from W. and N.W. Squalls and heavy showers prevailed on Wednesday, but the weather improved in the afternoon. By 8 a.m. of Thursday the cyclonic centre had reached Copenhagen. On this day the sky became overcast with sheet cirrus, and at night another and still deeper depression swept eastwards across Ireland at the rate of some 60 miles an hour. The centre passed near Dublin about 5 30 a.m. (Irish time), reaching Liverpool at 8 a.m. (English time)—the barometer fell to 28·66 inches near the centre. A secondary depression followed on Saturday morning. In Dublin the mean height of the barometer was 29·517 inches, pressure ranging between 29·831 inches at 9 p.m. of Wednesday (wind, W. by N.), and 28·680 inches at 5 30 a.m. of Friday (wind, N. by W.). The corrected mean temperature was 51·8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 51·7°. On Tuesday the screened thermometers rose to 62·5°, having fallen to 41·1° on Monday. The rainfall was 1·406 inches on 7 days, ·449 inch being registered on Thursday. The rainfall at Greystones, Co. Wicklow, was 3·070 inches, of which 1·290 inches fell on Monday. The prevailing wind was W.N.W.

Changeable, showery, chilly weather continued to the 29th, when conditions temporarily improved owing to the formation of an anticyclone over the southern portion of the United Kingdom. On the 30th the barometer rose to about 30·50 inches near the centre of this high pressure system. On the morning of Sunday, the 27th, there was a S.W. gale, in front of which temperature rose to 64·6°. As the day advanced a brisk fall of the thermometer occurred, there were heavy showers, and lightning was seen in the evening over the Irish Sea. The 30th was the finest day enjoyed for several weeks.

The rainfall in Dublin during the nine months ending September 30th amounted to 19·537 inches on 143 days, compared with 10·968 inches on 112 days during the same period in 1887, 22·301 inches on 156 days in 1894, 20·876 inches on 130 days in 1895, and a twenty-five years' average of 19·734 inches on 142·8 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 7·585 inches distributed over 24 days. Of this quantity 1·290 inches fell on the 21st, and ·940 inch on the 24th. At that station the rainfall since January 1, 1896, has been 21·912 inches on 115 days, compared with 23·883 inches on 125 days in the same nine months of 1892, 17·091 inches on 118 days in 1893, 25·896 inches on 137 days in 1894, and 23·665 inches on 117 days in 1895.

At Cloneevin, Killiney, Co. Dublin, the rainfall in August was 1·63 inches on 16 days (the maximal fall in 24 hours being ·40 inch on the 17th), compared with a ten years' average of 2·917 inches on 15·9 days. In September 5·17 inches fell at Cloneevin on 23 days. The maximal fall in 24 hours was ·87 inch on the 4th. On an average of ten years the September rainfall at this station has been 1·530 inches on 11·6 days. Since January 1, 1896, 20·50 inches of rain have fallen at Cloneevin on 129 days. The rainfall in the first nine months of the year at Cloneevin was 22·92 inches on 150 days in 1894, 21·58 inches on 129 days in 1895. Of the 20·50 inches measured up to September 30 in 1896, 11·89 inches fell on 43 days in the two months—July and September. The exceptional character of the rainfall in September, 1896, may be gathered from the fact that the greatest fall previously recorded in September at Cloneevin was 3·47 inches, on 17 days, in 1885.

At Brenanstown House, Cabinteely, Co. Dublin, the September rainfall was 5·55 inches; at Claremont, Carrickmines, it was 5·79 inches.

BREAD.

Vienna bread is made with plain compressed yeast, English bread chiefly with a yeast grown in a mixture of malt and hops, Scotch with a flour-grown yeast, "leavened" bread with dough held over from a previous baking, which causes peptonisation and not alcoholic fermentation. In the Hovis flour the germs are first destroyed by superheated steam, as they otherwise keep badly; and in the London aerated bread a stale malt and flour yeast is used as well as carbonic acid pumped into the dough. A bread made from wood is largely employed in feeding the Berlin tram horses.—*The Hospital.*

PERISCOPE.

"THE LARYNGOSCOPE."

We have received the first issues of a new American monthly journal devoted to the diseases of the throat, nose, and ear, called *The Laryngoscope*. The periodical is edited by Drs. Frank M. Rumbold and M. A. Goldstein, and is published at St. Louis. It contains articles—most of them valuable—by well-known authors on the diagnosis and treatment of diesases coming within the limits of its specialty. One particularly valuable paper, by Dr. Dundas Grant, on "The Clinical Investigation of Ear Diseases," formulates the methods of examination, and directs attention to points liable to be overlooked. A short paper on "Electrolysis for the Reduction of Spurs of the Nasal Septum," by Dr. Casselberry, is distinctly retrograde. The substitution of electrolysis for established methods, such as the saw, is like trying to improve on the hammer for driving nails. The author, in fact, himself summarises it as "more tedious and less brilliant than the surgical method." There are many interesting clinical reports and editorials, and much useful information concerning the uses of new drugs, especially in the nose and pharynx. *The Laryngoscope* is a valuable addition to the literature of the throat, nose, and ear.

ARMY MEDICAL SCHOOL, NETLEY.

British Medical Service—The following is the official list of surgeons on probation of the Medical Staff of the British Army who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

July 31st, 1896.

		Combined Marks			Combined Marks
1	Birrell. E. T. F.	5,255	6	MacDougall, A. J.	4,072
[a] 2	Cochrane, E. W. W.	4,600	7	Clements, R. W.	3,994
3	Morris, A. H.	4,372	8	Swabey, M.	3,873
4	Riddick, G. B.	4,152	9	Hewetson, H.	3,793
5	Archer, S. A.	4,114			

[a] Gained the Parkes' Memorial Medal.

Indian Medical Service—Appended is the official list of surgeons on probation of the Indian Medical Service who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

July 31st, 1896.

		Combined Marks			Combined Marks
[a] 1	Walton, H.	5,907	10	Brown, H. R.	4,439
[b] 2	Ainsworth, H.	5,606	11	Richards, W. G.	4,435
[c] 3	Pinch, A. E. H.	5,010	12	James, S. P.	4,357
4	Dickson, H. A. D.	4,980	13	Fleming, A. N.	4,313
5	Stevenson, J. S.	4,940	14	Dee, P.	4,307
6	Smith, F. A.	4,915	15	Mell, F. O. N.	4,186
7	Cornwall, J. W.	4,791	16	Brown, F. D.	4,153
8	Miller, A.	4,561	17	Dick, M.	4,151
9	Hammond, F. A. L.	4,472			

The prizes were presented by Field-Marshal the Right Honorable G. J. Viscount Wolseley, K.P., G.C.B., G.C.M.G., Commander-in-Chief.

MARION SIMS' START.

(From Dr. James T. Jelks' Address at Barnes Medical College, St. Louis, Mo., reported in *Journal of the American Medical Association*):—"In a little village in South Carolina, in 1836, a young man hung out his shingle for the purpose of practising medicine. In a month or two the leading man of the village called on him and said, 'Marion, have you had a case yet?' Being answered in the negative, he was told to go up to the man's house, that the baby was ill. The young doctor went and found a very sick child. He thought the child had cholera infantum; told the family to send to his office in one hour and he would have the medicine ready. To his office he went, and got down from his bookshelf 'Eberle on Children,' the text-book of that day, and began to read up on cholera infantum, As the time drew near for Jennie to come for

[a] Gained the Martin Memorial Medal and the 1st Montefiore Prize of 20 guineas.

[b] Gained the Maclean Prize for Clinical and Ward Work, and a Prize in Pathology.

[c] Gained the Herbert Prize of £20; the Prize in Pathology presented by Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I.; and the de Chaumont Prize in Hygiene; and the 2nd Montefiore Prize.

the medicine he was no more enlightened than when he began to read. One peculiarity of Eberle's book was, that there was a prescription on nearly every page. Well, in the young man's bewilderment he did not know what better he could do than to fill the first prescription, and he did it. In after years I heard him tell about it, and he remarked that 'he turned a page on that baby every day, and filled the next prescription.' When he got along toward the end of his prescriptions, the baby was ready to be transplanted as a rosebud to paradise, but the doctor did not know it. He had never seen death. He had heard the best of lectures, but had never seen sickness: there was no clinical teaching of medicine then. He paid a final visit to the child, and while sitting beside it and watching the little sufferer, suddenly it stopped breathing. Immediately the doctor picked the baby up, lowered its head, and lifting its legs in the air shook it, thinking the child had fainted and that he would thus get some blood into its brain and revive it. The old woman, who had come in to see the child and incidentally to size up the young doctor, placed her hand on his shoulder and said, 'Doctor, you need not shake that baby; it is dead!'"

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

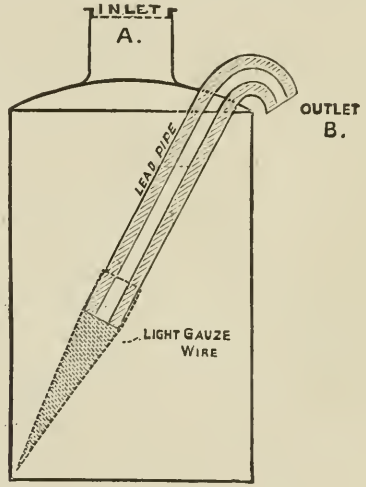
Midlothian Oat Flour.

Messrs. A. & R. Scott, 28 Buchan-street, Glasgow, have submitted to us samples of their Midlothian oat flour and biscuits. This oat flour should be a most wholesome and nutritious article of diet for general use, but especially for infants, young children, invalids, and persons of weak digestion. It is rich in flesh and bone-forming properties. Analyses show that it contains phosphoric acid in ash ·87; potash ·37. Mr. H. C. Bartlett, Ph.D., F.C.S., of London, says:—"These are remarkable proportions of bone-forming matter, and greatly exceed those found in wheat meal and flour. The results are highly satisfactory, and your preparation is certainly the best I have ever examined." Dr. Wm. Wallace, Public Analyst for Glasgow, Perth, Ayr, &c., in his report says:—"I have made a careful chemical analysis of Scott's Midlothian oat flour, and have found it to have the composition of oat meal of the finest quality, minus the husk, of which even the finest oat meal contains a portion. It has a very pleasant flavour, and is admirably adapted for children and invalids." The oat flour biscuits, in addition to

the fact that they are easily digested and possessed of highly nourishing properties, are very palatable and crisp.

A New Patent Automatic Disinfector.

This is an apparatus for automatically distributing a given quantity of any suitable concentrated disinfectant to every flush of water discharged from a water-closet cistern. Its action is as follows:— A can, containing 1,500 charges of solution of permanganate of potassium, on being placed at the bottom of a flushing cistern as directed, immediately becomes filled with water, and every time the operation of flushing takes place and the level of the water in the cistern falls below the cap on top of the can, a quantity of the disinfectant in solution equal to the amount of water contained in the cap will be discharged through a curved outlet pipe at the side, the bottom end of which is covered by fine gauze wire to prevent choking. The sketch shows the apparatus at work.



It is evident that by this simple device—(1.) The disinfectant cannot be wasted between flushes. (2.) The quantity used is measured each time the cistern flushes the closet. (3.) There is nothing to get out of order, consequently the action of the apparatus is certain. (4.) It can be fixed by anyone, no skill or special knowledge being needed.

The patentees are the Auto-Disinfector Company, 93 Northumberland-street, Liverpool, S.

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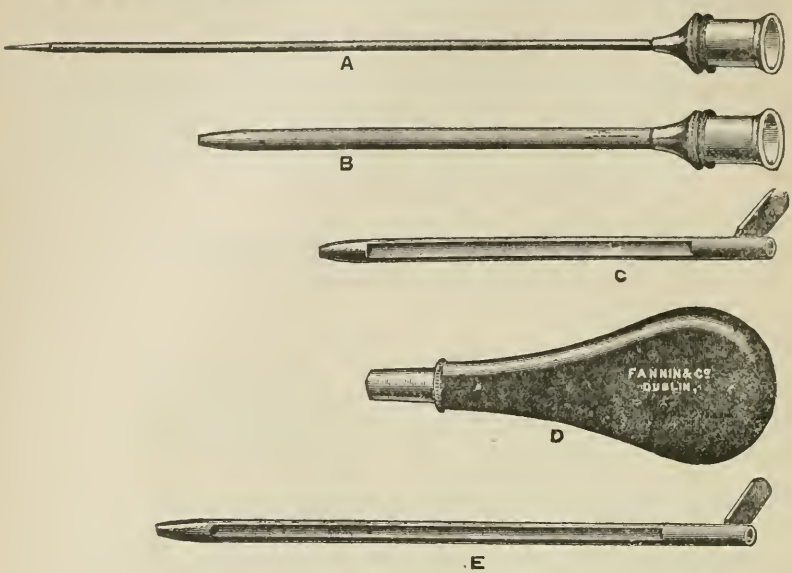

FIG. A represents an ordinary Aspirator Trocar. FIG. B, the Aspirator Cannula belonging to it. FIG. C. Cannula, with Director Groove made to fit accurately over A and B together. FIG. D. The Handle. FIG. E. Director Cannula, fitting the Trocar A only.

DR. FITZGIBBON writes:—"The difficulty which occasionally arises in deciding with certainty whether a pleuritic effusion has resolved itself into an empyema or not often places the surgeon in the position of having to withdraw an Aspirator Cannula in order to open the pleural cavity freely for drainage and irrigation. Once the Cannula is withdrawn it is not always easy to get a director to follow the same track into the pleural cavity, as the relative positions of the skin, fascia, and pleura are apt to be altered by the escape of the fluid and by a change in the position of the patient."

In order to obviate this difficulty, Dr. H. FitzGibbon has designed the instrument represented in the accompanying woodcuts, and he has found it to facilitate the introduction of the drainage tubes into the thorax very much, and to enable the operation to be performed much more rapidly than is possible without its aid.

The Trocar A being put into the Cannula B, the Director Cannula C is passed over both, and the handle put in situ.

A slight skin incision may be made at the point that it is proposed to tap the thorax, and the Trocar plunged through in the usual manner, and then withdrawn, leaving the Director Cannula in. If the fluid which escapes proves to be serum, it can be allowed to flow off, or be aspirated, as the operator thinks fit, but if it proves to be purulent, and it is necessary to make a free opening for the drainage and irrigation of empyema, the Cannula is withdrawn, leaving the grooved Director Cannula in the cavity, which can be rapidly opened, as freely as is thought necessary, by running a bistoury or a scalpel along director to the stop at the end, and cutting into the direction of the intercostal space as the knife is withdrawn.

Figure E is a Director Cannula which Dr. H. FitzGibbon uses in cases where there is no doubt of the existence of an empyema, and in which a free opening is to be made without exploration.

Dr. H. FitzGibbon says that Messrs. Fannin & Co. have made several of these instruments very neatly for him, and it is essential that the Director Cannula be made to fit accurately, and gently tapered at the point to prevent it from pushing the costal pleura before it. When skilfully made he has found the instrument a most valuable assistance in opening the thorax for drainage and irrigation.—Extract from the *British Medical Journal*, June 6th, 1896.

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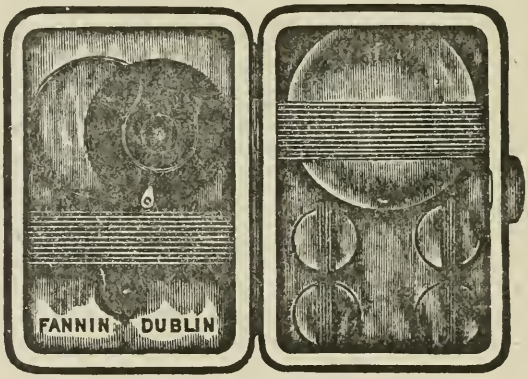

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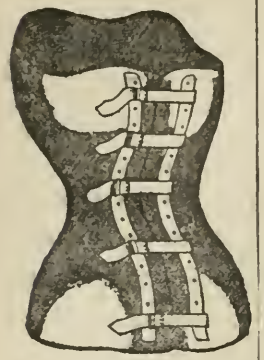


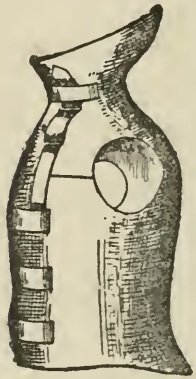
Instructions for Measurement, &c.

JACKET (*in cases of slight deformity*).

Circumference at axilla.
„ waist.
„ hips.
Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

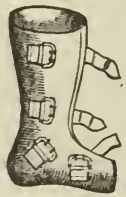
In all cases it should be stated if for male or female.



CERVICAL JACKET.

Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of Manufacture be left Soft.



CLUB FOOT.

Circumference below knee.
„ ankle.
„ heel and instep.
Length from below knee to ground.
„ of foot.

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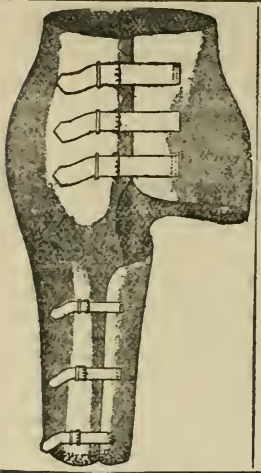

Instructions for Measurement, &c.

HIP SPLINT.

Circumference at waist.
„ hips.
„ thigh, top of
„ above knee.
Length from waist to groin.

State if for right or left side.

LEG SPLINT.

Circumference at top of thigh.
„ above knee.
„ at knee.
„ below knee.
„ calf.
„ ankle.
Length from groin to centre of knee.
„ centre of knee to ankle.

State if for right or left leg.

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder-Joint, Hand, &c.

These Splints can be fitted perfectly to the Patient if softened either by hot water or in a Heater made for the purpose. When mounted with webbing, hot water will do; if with leather, a Heater should be used. The material becomes quite hard again in two or three minutes.

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But LYSOL is not only a superior antiseptic and disinfectant, it has also been proved to be an excellent specific remedy for a number of external diseases, particularly such of parasitic nature, with man and beast, and hence its use throughout all countries of the world by surgeons, gynaecologists, physicians, veterinary surgeons, midwives, horse and stockowners, and particularly for **general disinfecting purposes in household and stable.**

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The composition of LYSOL is no secret; it has been published. It is a pure Cresol preparation, and is guaranteed to contain the highest percentage of cresylic acid (in free state and neutral solution) of any preparation in the market.

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